

Egypt Provider Survey Report

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Provider Report -- Introduction

I. Background

This report presents tabulated results from the Egypt Health Care Providers (EHCP) Surveys, a set of national sample surveys conducted under the Data for Decision Making Project. The surveys were developed as a collaborative effort between the Department of Planning, Ministry of Health and Population (MOHP), the Cairo Demographic Center, and Harvard University's School of Public Health.

The Data for Decision Making Project (DDM) was established in the MOHP in 1993, with financial assistance from the United States Agency for International Development. It was a component of the Cost Recovery for Health Project. The project was completed in September, 1997.

DDM's objectives were to assist Egyptian authorities to:

- develop the essential information base to support health policy analysis and health sector reform
- strengthen the technical capabilities of the Department of Planning, MOHP, to be able to carry out independent analysis of health planning and policy issues
- formulate health policy strategies and advance health reform efforts.

As part of DDM's assistance to developing policy-relevant information, a number of new data collection and analysis initiatives were undertaken. These included development of a governorate-level "budget tracking system", which would provide information on the allocations of government spending in Egypt's decentralized financing system; studies of national health accounts, first for 1990-91, then again for 1994-95; cost-effectiveness analysis of up about health interventions, using Egyptian data; and two sets of national surveys, a household health care utilization and expenditure survey, and a set of surveys of health care providers.

II. Provider Surveys: Objectives and Design

Despite decades of public policy designed to develop government and public sector services, Egypt has a very pluralistic health care system. Even the state-owned sector consists of many different entities which provide health care services, such as the MOHP, the Ministry of Education, the Teaching Hospitals Organization, the Health Insurance Organization, and the Curative Care Organizations. There is a large private health care provision sector, including both for-profit and not-for-profit providers. And some types of traditional practitioners are also still widely used by the population.

While it was well known that government was not the only provider, little was known in a systematic way about non-government providers, especially private physicians and the facilities of non-profit organizations. Household surveys reported that non-government providers were an important source of health care, even for interventions given priority for government services, such as treatment of the major infectious diseases like diarrhea, tuberculosis, and respiratory infections. Answers to basic questions, such as who were these providers, what training did they have, what were the characteristics of their practices, where were they located, etc. were not available.

There were also other questions, very relevant for policy, for which there were no answers. For example, micro studies of government health facilities often reported staff absences during regular hours. It is well known that almost every physician in Egypt obtains some type of government or public sector employment upon graduation from medical training, and that many also maintain multiple jobs including private practice. How was performance in government employment related to multiple job-holding and what could be done to improve the value received for the wages paid by government? There was little information on job and work patterns amongst physicians, with which to investigate such questions.

The EHCP surveys were developed to enable some sustained enquiry into these and other issues.

Objectives

The EHCP surveys had the following specific objectives:

- To provide a comprehensive picture of all the main sources of health care services in the country, including government, public sector, and private sector and traditional providers, through a representative national sample survey.
- To provide policy relevant data on a number of critical issues for Egypt's health sector reform program, including:
 - Efficiency indicators for hospitals and health facilities, to gauge the level of efficiency and the relative performance of different types of providers
 - Job and work patterns of physicians in private and public practice and those holding multiple provision roles
 - Response of providers to payment mechanisms and other incentives
 - Descriptive information on other important primary care providers, such as pharmacists, unqualified practitioners, and traditional practitioners.
- To create a database on health care providers for use by the MOHP in development of policy reform proposals

Design of The Surveys

To meet these objectives, the EHCP surveys were designed to collect data directly from a representative sample of providers of different types throughout Egypt. Five separate surveys were carried out: health care institutions, including both inpatient and outpatient institutions¹; private clinics, which included individual physician practices and dental practices; pharmacies; "dayas" or traditional birth attendants; and other practitioners. The health care institutions survey included a range of hospitals of different size and ownership, as well as outpatient facilities of various kinds. Since the private clinic survey also included dentists, who provide very different types of service, these are tabulated in two separate sections of this report.

Developing the sample frame for these surveys posed some significant technical problems. Health care institutions, that is hospitals and multiple practitioner clinics, and pharmacies are registered with public authorities. Their number and location is known and obtainable. For the other types of health providers, there are no complete and up-to-date records. There is little basis

¹ Health care institutions included the following: hospitals, policlinics, health office, school health office, and maternal and family planning clinics. As in many countries, these terms describing health facilities are not always a reliable indicator of size, staffing, or function.

for estimating the size or distribution of the universe of providers from which to draw a sample. There is also no complete listing, which can be used for selecting providers to interview.

The sample for these surveys was developed from two sources. First, a complete enumeration of all health care providers of the five types being surveyed was conducted in a set of sampling areas, selected for national distribution and representativeness. Second, data from the 1986 national census, which enumerated health providers, was used, in conjunction with our sample area enumeration, to estimate the total number of health providers in Egypt of different types.

*Sample enumeration areas.*² Twelve governorates were randomly selected representing the five regions of Egypt: Urban governorates, urban and rural Lower Egypt, and urban and rural Upper Egypt. Within each governorate, urban and rural areas were selected and enumerated separately. In total 83 shiakhkas (urban) and 167 villages (rural) were covered as the final level of enumeration area.

Selection of the shiakhkas and villages to be enumerated was done based on a purposeful consultation with local authorities and other knowledgeable individuals. These were asked to identify shiakhkas or villages with a low, moderate, and high concentration of providers. Within each selected higher level administrative area, one area each of high, moderate, and low provider prevalence was enumerated.

Within each enumeration area, field personnel carried out a complete count of all health care providers that could be identified of the five types. In total, 10,048 providers were identified, as shown in Table 1.

Table 1: Enumeration of health providers in sample enumeration areas

| <i>Area</i> <i>Type of provider</i> | <i>Total</i> |
|---|---------------------|
| Urban governorates | 3728 |
| Urban lower Egypt | 1690 |
| Rural lower Egypt | 1544 |
| Urban upper Egypt | 2467 |
| Rural upper Egypt | 619 |
| Total | 10048 |

Determining sampling fractions. To determine the final survey sample size and distribution, it was desirable to have some estimate of the total population of providers that the survey would represent. To generate such an estimate, we relied on data from the 1986 census, which did an enumeration of health care providers of various types. Use of this data was based on the assumption that, while the total number of health care providers may be quite different in the mid-1990s than in the mid-1980s, the distribution of providers geographically would not change that much. We could compare data from 1986 on the number and distribution of providers with our enumeration data. The results were quite different. Based on the 1986 census, we should have found only about 2000 providers in our sample areas, whereas we actually found more than 10,000! Clearly, the preceding data was only a weak basis from which to generalize.

Finally, based on our sample area enumeration we derived high and low estimates of the actual numbers of providers in each region of Egypt. Our actual sample sizes were selected to approximate a percentage of this total population for each type of provider, given our limitations of resources.

² Details of sampling methods and results are available in a note "Estimates of Health Providers" from the Cairo Demographic Center and in the paper "" in the CDC report "". Both of these can be requested from the Data for Decision Making Project.

Implementation of The Surveys

A team from the Cairo Demographic Center conducted the surveys. Teams of interviewers traveled to previously enumerated areas. Using the complete enumeration lists and the sampling fractions decided on, a random sample of providers of each type was selected for interview.

For most of the provider types, interviews were held with the key individual in charge, e.g. the physician in an individual practice, pharmacist in the pharmacy, etc. For the health care institutions, the institution director or manager was interviewed.

Supervisors and the CDC team reviewed completed questionnaires. Where significant data was missing or unclear, revisits to the providers were carried out.

III. Estimates of Egypt's Health Care Provision Supply

As noted above, we were able to combine information from the 1986 national census on health care providers with our full area enumeration to develop high and low estimates of the total population of providers. These are provided below in Table 2. This information is useful for understanding the structure of Egypt's health care market, although admitted we are still at a very high level of aggregation.

Table 2: High and low estimates of health providers in Egypt, 1994

| | <i>Urban Governorates</i> | | <i>Urban lower Egypt</i> | | <i>Rural lower Egypt</i> | | <i>Urban upper Egypt</i> | | <i>Rural upper Egypt</i> | | <i>Frontier Governorates</i> | | <i>Total</i> | |
|-------------------------|---------------------------|-------------|--------------------------|-------------|--------------------------|-------------|--------------------------|-------------|--------------------------|-------------|------------------------------|-------------|--------------|-------------|
| | <i>Low</i> | <i>High</i> | <i>Low</i> | <i>High</i> | <i>Low</i> | <i>High</i> | <i>Low</i> | <i>High</i> | <i>Low</i> | <i>High</i> | <i>Low</i> | <i>High</i> | <i>Low</i> | <i>High</i> |
| Hospitals | 554 | 852 | 379 | 412 | 56 | 68 | 396 | 472 | 27 | 32 | ** | 36 | 1403 | 1872 |
| Other health facilities | 1202 | 1848 | 659 | 734 | 1226 | 1483 | 742 | 883 | 489 | 588 | * | * | 4318 | 5536 |
| Private clinics | 14116 | 21697 | 9635 | 10736 | 2672 | 3232 | 10002 | 11905 | 694 | 833 | * | * | 37119 | 48403 |
| Pharmacies | 3387 | 5205 | 3004 | 3347 | 1043 | 1262 | 2333 | 2777 | 323 | 388 | ** | 138 | 10090 | 13117 |
| Dayas | 52 | 80 | 794 | 885 | 1607 | 1944 | 168 | 199 | 947 | 1137 | * | * | 3568 | 4245 |
| Other practitioners | 172 | 265 | 785 | 875 | 4281 | 5176 | 128 | 153 | 850 | 1020 | * | * | 6216 | 7489 |

* No data available

** Official figure available for Frontier Governorates, applied to high estimate

IV. Issues for Future Surveys

Designing and carrying out the EHCP surveys brought home to our research team a number of difficult issues regarding studies of this type. A preliminary discussion of some of these problems, in the context of this report, may be helpful.

1. Lack of essential information for sample design. As noted above, and particularly in the case of physician practices, there was an insufficient information base upon which to design the survey and make a proper sample selection. While individual physicians are registered as part of their professional licensure, these registries are not an accurate reflection of a physician's current location, nor do they correspond to individual physician's practices. They could be working elsewhere in Egypt, or abroad. Similarly, there are no well-maintained records of doctor's office practices. Even less information is available for other types of practitioners.

2. Reliability and validity of responses. On the whole, providers cooperated in contributing information to the survey. Specific issues in provider response are discussed in more detail in each section, as appropriate. Several types of questions proved generally problematic.

- We anticipated difficulties in obtaining financial information from individual physician practices. However, to our surprise, this information was also lacking or implausibly reported by health facilities, including government facilities. It is possible that facility managers have little knowledge of their budgets and expenditures. This could be because the largest item of expenditure -- staff salaries -- is essentially invisible at the facility level. However, we also suspect that some of this information is considered sensitive, with managers preferring not to divulge figures. In any case, facility based surveys are not the best way to obtain such data.
- Time allocation information is also typically sensitive. From individual physicians, we have treated responses as more the "normative" than "actual" information. In other words, if a private physician says he works 30 hours a week in a government job, we take that to mean that he is contracted to work 30 hours. His actual work time remains unknown. Observation and anecdotal information indicates that many physicians do not appear for their formal government jobs. In contrast, while a large majority of privately practicing physicians reported having a government or public sector job, none reported zero or small numbers of hours attending that job.

For larger health facilities, we were unable to obtain detailed information on work patterns, given the large number of employees involved. Managers and other employees do not know the outside obligations of all staff and probably would not want to provide detailed information on others in any case.

- The survey also enquired about output or patient volume from various types of providers. We sometimes find these figures at high variance with the rates of utilization reported in the Egypt Household Health Care Use and Expenditure Survey (DDM, 1997) as well as from government sources. The discrepancies occurred in both directions. Physicians' private patient output is well below what we would expect from reported household utilization figures. Since volume is highly correlated with earnings, especially for private practices, providers have a strong incentive not to be completely forthcoming. We would treat the estimates of physician volume and earnings (based on volume figures) provided here as low boundaries of actual output.

In contrast, hospitals reported occupancy rates well above those available from routine MOHP statistics. Since these were computed from bed-day volume reported for each hospital department, they may be plausible figures. This would suggest that our hospital sample may have favored some of the better functioning government and public sector facilities.

V. Key Findings

Each section of the report discusses the finding on its component of the EHCP surveys. The following are some highlights of interesting and important results.

Individual Physician Practices

- In general, physicians in private practice work long hours to see relatively few patients. This probably reflects Egypt's large stock of physicians in comparison with other countries at similar levels of income. The EHCP survey suggests that there is not a severe supply constraint for physician services. This varies for different parts of the country.

- More than four-fifths of privately-practicing physicians have some type of government or public sector job and some have two or even three additional jobs. Multiple job-holding is the norm.
- Patient volume reported for the government and public sector work of privately practicing physicians is much higher than volume reported in their private practices. This probably reflects several factors, including: some under-reporting of private practice volume; a large supply relative to constrained demand for private services; and crowding at public facilities. Also, since private physicians may be over-reporting the actual time they spend in government and public practice, the volume difference may be suggestive of significantly lower quality in government/public facilities.
- Physician's earnings in private practice are, on average, modest, although they are certainly several times larger than their salaries in government and public service. Given the large supply of physicians in Egypt and the low productivity of those in public employment, government may be able afford substantial improvements in performance, as well as significant purchasing of private provision capacity, if it uses its financing more wisely.

Health Facilities

- There are a wide range of health care institutions and facilities distributed over a number of different institutional owners in government, public, private non-profit, and private for profit sectors. However, these do cluster to some degree by institutional owner. The largest inpatient facilities tend to be government, including both MOHP and university hospitals. Medium-size inpatient facilities are distributed over wider range of government, public, and private owners. Outpatient facilities are largely found in the MOHP, HIO, and private non-profit and for-profit sectors. Private facilities tend to be founded most recently, suggesting growth in that sector.
- Many health facilities make significant use of both full- and part-time staff. Widespread use of part-time staffing, is, of course, generally supportive of the multiple job-holding pattern common in Egypt.
- Egyptian hospitals have a high ratio of physicians to beds. For large inpatient facilities (>100 beds), this averages about 1 physician for every two beds. For medium facilities (10-100 beds) this averages almost 1 physician per bed. It is likely that nominal and real staffing levels are quite different, especially in government and public sector facilities.
- Enumerators' subjective reports on quality measures at various types of health facilities generally ranked private and public sector facilities higher than those of the MOHP.

Dayas

- A daya (or traditional birth attendant) is usually an older woman, who has had several children herself, lives in the community and learned her profession by apprenticeship. The average age of the daya in the sample was 55 years and they had an average of 22 years of experience working as a daya. Only 14 percent of the dayas in the sample reported having some kind of formal training in health care
- Eighty percent of the dayas in the sample were in rural areas with the fewest being found in urban governorates
- The educational status of dayas is very low, as 70 percent were illiterate. No one in the sample had attended an university, 11 percent had attended secondary school or higher, 12 percent reported reading and writing as their highest educational status, 3 percent had attended primary school, and 4 percent went to preparatory school.

- While all dayas perform deliveries, 83 percent reported providing post-natal care. The other services rendered by dayas include intra muscular injections (20 percent of sample), intravenous transfusions (15 percent of sample), and first aid (11 percent of sample)
- Forty-eight percent of the dayas reported finding complications either during pre-natal check up or during delivery. All cases with complications were either referred to a physician or hospital and 82 percent checked to see whether the referred patient actually went to the physician or hospital
- Dayas reported a high level of knowledge about family planning methods and 81 percent either always or sometimes advice mothers on these methods
- While 69 percent of dayas reported receiving payment in cash the others reported accepting a combination of cash and kind. Not surprisingly the fees they charge is dictated by the ability of the family to pay
- Dayas were by and large satisfied with their work and 79 percent felt that their experience and success were the reasons women came to them for help in delivering their babies.

Dentists

- Dentist Practices are more likely to be located in urban areas: 91 percent were located in urban areas and 9 percent in rural areas
- Dentists were more likely to be males (92 percent of the sample), had an average experience of around 16 years, and 65 percent of the sample had a qualification higher than a bachelor's degree
- Sixty-eight percent were open only in the evening, 29 percent open both in the morning and evening, and 3 percent are open in the morning only
- Multiple employment was common among dentists. 73 percent had two jobs, 6 percent had three jobs, and 1 percent reported having four jobs. 61 percent of those with two jobs are employed by the MOHP, 20 percent work for Universities, and 10 percent for the HIO
- On average dentists worked five hours per day, six days per week in their government job and four hours per day, six days a week in their own clinics. Dentists worked more hours per week in rural areas than urban areas
- Dentists saw on average only 14 patients per week in their private clinics at a rate of 0.6 patients per hour worked. Dentists saw more patients per week in urban areas, with the exception of rural Upper Egypt
- The average fee for a dental exam ranged from L.E. 4 to L.E. 13 by region. Even though there are more dentists in urban areas they tend to charge higher fees than dentists in rural areas where there are relatively few dentists
- Forty-four percent of dentists were dissatisfied with the number of patients they were seeing in their private clinics. This was significantly higher in rural Lower Egypt. Less than 30 percent of the dentists reported keeping records for each patient. Where records are kept it is the dentist who fills in this information

Pharmacies

- There were five times more pharmacies in urban areas or urban governorates than in rural areas
- Pharmacists are more likely to be male (81 percent of sample) with an average age of 42 years, 68 percent of them lived in the same city or village where the pharmacy was located,

and had been working for an average of 11 years at the pharmacy where they were interviewed

- Eighty-one percent of the pharmacists reported owning the pharmacy, 6 percent were co-owners, and 13 percent were employed by others
- Overall pharmacies in the sample had been operating for 18 years. 36 percent of the pharmacies reported being open 7 days a week and 64 percent were open six days a week. Pharmacies were open on average 12 hours per day with those in rural Upper Egypt reporting being open for roughly 10 hours per day
- Pharmacists reported dispensing medicine to those with and without prescription. 42 percent of their customers had prescriptions, in 16 percent of the cases the customer consulted with the pharmacist about their condition and the pharmacist then prescribed medication, and in the remaining cases the pharmacist sold what the customer wanted.
- In addition to selling drugs, pharmacists reported that they offered advice to their customers. 61 percent offer advice on laboratory or other investigations to be carried out
- Unlike physicians and dentists the vast majority (91 percent) of pharmacists have only one job. They worked 54 hours per week at their first job. Those with second jobs worked on average 29 hours at that job
- Forty percent of the pharmacies in the sample reported having contracts with organizations to provide drugs to their beneficiaries
- Ninety seven percent of the pharmacists reported that they could not provide drugs to somebody who needed them at some time, 52 percent reported that they sometimes faced a shortage of drugs, and 25 percent reported chronic shortages of drugs. The primary reason for this shortage (88 percent) was the difficulty in obtaining credit. In only 13 percent of the cases was lack of supply mentioned as a reason
- Seventy-five percent of the pharmacists suggested increasing the availability of drugs and 44 percent suggested reducing prices as means to improve the quality of services they provided

Other Health Services Providers

This category refers to traditional healers and other non-physicians who provide health care services. They are unlicensed providers who are not officially allowed to operate, but who nevertheless provide health care services. Due to their unofficial status it was very difficult to get these providers to participate in the survey. The resulting sample size is therefore not only very small but the results may not be representative of the population of “other health service providers.” To that extent the results should be viewed with caution

- Even though it is widely accepted that there are more male than female providers the majority of traditional health services providers in the sample were female. This probably reflected the fact that female providers were more likely to participate in the survey than their male counterparts
- Eighty-eight percent of these providers lived in rural areas, had lived at their current residence for 24 years, 84 percent were married, and none had attended a university
- Nearly all providers will give injections to patients, 75 percent of providers will dress wounds, and 15 percent will set bones
- Twenty-four percent of providers furnish patients with drugs or some kind of medications. On average, they saw 26 patients per week. However, this ranged from 8 visits per week in urban areas to 85 visits per week in rural Upper Egypt

- Sixty-six percent of the sample had a second job with 79 percent of these jobs being at the MOHP
- Sixty-one percent of those surveyed said they did not charge anything for their services – a result that cannot be relied upon to be accurate
- Lack of proper training and health education was cited as the major problem facing them in improving the quality of care they provided.
- Forty-four percent of the sample reported that patients come to them first with the rest saying that patients came to them after first consulting another provider. They felt that their experience and familiarity with the client were the main reasons why patients came to them

Additional Analysis

This report provides an extensive look at the tabulation analysis that has been done with the EHCP survey results. It is intended as a basic reference document for those interested in the general findings. It is also a stepping off point for further, more focussed investigation of specific issues.

One focus area for additional analysis at this time relates to the role of private physicians in Egypt's health care system. This includes estimates of the total quantity of physician supply as measured by a variety of indicators and the allocation of this supply across government, public, and private provision. Economic analysis of physicians' response to prices and wages in multiple employment is also being done.

VI. Guide to the Report

The report is organized according to the different components of the EHCP survey. The tabulated results from each component are reported separately in the following sections on institutions (II), private clinics (III), dentists (IV), pharmacies (V), dayas (VI), and other providers (VII).

Institutions

I. Introduction

The Health Services Provider Survey classified institutions by affiliation and institution type (see Appendix 1). To facilitate analysis of the survey the 11 institution types were aggregated into the following 4 facility categories:

1. Large inpatient facility - facility offering inpatient services with 100 or more beds
2. Medium inpatient facility - facility offering inpatient services with 10 or more beds, but less than 100
3. Small inpatient facility - facility offering inpatient services with less than 10 beds
4. Outpatient facility - facility offering outpatient services only

Similarly, administrative affiliation was aggregated up from its 11 categories to the following 6: Ministry of Health and Population (MOHP), Cairo Curative Organization (CCO), Health Insurance Organization (HIO), Private institutions, Universities and Others. Other ministries, educational institutions and hospitals, public sector companies, syndicate and professional groups, co-operatives, and others are grouped under Others. The survey covered 12 of the 28 governorates in Egypt: all 4 urban governorates, 4 governorates from Upper Egypt and 4 governorates from Lower Egypt. These governorates were then divided into 5 regions: Urban Governorates, rural Lower Egypt, urban Lower Egypt, rural Upper Egypt and urban Upper Egypt. Five hundred fifty-five institutions were interviewed, but only 537 replies were used for this report.¹

II. Supply of Providers

The distribution of sampled institutions by affiliation, region and facility type is shown in Table 2.1. There are 203 institutions with inpatient facilities, 185 of which have both inpatient and outpatient facilities and 18 with only inpatient facilities. The remaining 334 institutions have outpatient facilities only. MOHP facilities, CCOs and universities account for 91% of large inpatient facilities in the sample. 75% of large inpatient facilities are MOHP facilities, 9% are CCO and 7% are University affiliated. Private sector inpatient facilities are concentrated in medium (38 facilities) and small (27) facilities rather than large (1) facilities. While 70% of private sector facilities are inpatient, 64% of MOHP facilities are outpatient. Other affiliations and HIOs are the next main providers of outpatient care with 33% and 18% of all outpatient facilities respectively.

¹ For example, some institutions reported having either physicians, but no beds or beds, but no physicians.

Table 2.1 : Number of Institutions by Affiliation, Region and Facility Type

| Affiliation/Facility | <i>Large Inpatient Facility</i> | <i>Medium Inpatient Facility</i> | <i>Small Inpatient Facility</i> | <i>Outpatient Facility</i> | <i>Total</i> |
|----------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------|--------------|
| MOHP | 42 | 26 | 10 | 137 | 215 |
| CCO | 5 | 1 | 0 | 0 | 6 |
| HIO | 2 | 2 | 0 | 60 | 64 |
| University | 4 | 0 | 0 | 0 | 4 |
| Private Sector | 1 | 38 | 27 | 28 | 94 |
| Other | 2 | 20 | 23 | 109 | 154 |
| Total | 56 | 87 | 60 | 334 | 537 |
| Region | | | | | |
| Urban Governorates | 16 | 31 | 36 | 131 | 214 |
| Lower Rural | 1 | 12 | 5 | 62 | 80 |
| Lower Urban | 20 | 11 | 10 | 51 | 90 |
| Upper Rural | 5 | 8 | 1 | 41 | 55 |
| Upper Urban | 14 | 25 | 8 | 49 | 96 |
| Total | 56 | 87 | 60 | 334 | 537 |

Definitions:

| | |
|---------------------------|--|
| Large Inpatient Facility | facility offering inpatient services with 100 or more beds |
| Medium Inpatient Facility | facility offering inpatient services with 10 or more beds, but less than 100 |
| Small Inpatient Facility | facility offering inpatient services with less than 10 beds |
| Outpatient Facility | facility offering outpatient services only |

Approximately 90% of large inpatient facilities sampled are concentrated in urban areas, with 29% in urban governorates, 36% in urban Lower Egypt and 25% in urban Upper Egypt. Seventy-seven percent of medium inpatient facilities, 90% of small inpatient facilities and 70% of outpatient facilities are in urban areas. Within rural areas, Lower Egypt is better served than Upper Egypt with approximately 14% of both large and medium inpatient facilities, 8% of small inpatient and 17% of outpatient facilities in comparison with 9% of large inpatient, 9% of medium inpatient, 13% of small inpatient and 15% of outpatient facilities, respectively, in Lower Egypt. Table 2.2 shows the number of institutions by affiliation and region.

Table 2.2 : Number of Institutions by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| MOHP | 50 | 57 | 38 | 41 | 29 | 215 |
| CCO | 6 | 0 | 0 | 0 | 0 | 6 |
| HIO | 30 | 7 | 13 | 4 | 10 | 64 |
| University | 1 | 0 | 2 | 0 | 1 | 4 |
| Private | 38 | 3 | 21 | 4 | 28 | 94 |
| Other | 89 | 13 | 18 | 6 | 28 | 154 |
| Total | 214 | 80 | 92 | 55 | 96 | 537 |

Table 2.3 shows the number of institutions with outpatient clinics by affiliation and facility.

Table 2.3 : Number of Institutions with Outpatient Clinics by Affiliation and Facility

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOHP | 40 | 25 | 10 | 137 | 212 |
| CCO | 5 | 1 | 0 | 0 | 6 |
| HIO | 0 | 1 | 0 | 60 | 61 |
| University | 3 | 0 | 0 | 0 | 3 |
| Private | 1 | 29 | 26 | 28 | 84 |
| Other | 2 | 19 | 23 | 109 | 153 |
| Total | 51 | 75 | 59 | 334 | 519 |

III. Characteristics of Supply

Of the facilities sampled, university facilities, both inpatient and outpatient, have been in operation for an average of 33 years, in contrast with private sector facilities which have been operating only for 8 years. MOHP and CCO facilities average 28 and 24 years, respectively, while HIOs and Others have both been operating for approximately 11 years. Expansion of the HIO sector is due to the introduction of the School Children's Health Insurance Program in 1993, which increased HIOs coverage of the population from 10% to about 35%. However the most recent expansions appears to have been in the private sector. Table 3.1 shows the mean and median years in operation by affiliation for all facilities.

Table 3.1 : Years in Operation by Affiliation

| <i>Affiliation</i> | <i>Mean</i> | <i>Median</i> |
|--------------------|-------------|---------------|
| MOHP | 27.94 | 28 |
| CCO | 24.00 | 8 |
| HIO | 11.94 | 2.5 |
| University | 33.25 | 34 |
| Private | 8.38 | 5 |
| Other | 11.60 | 9 |

3.1 Beds

The survey found 19,782 beds in the facilities sampled. There were 11.2% in first class accommodation, 19.1% in second class, 13.1% in third class and 56.6% were free of charge. MOHP facilities had the most beds overall, the most free-of-charge beds and the least number of first class beds. Forty-six percent of all beds in the private sector and CCOs² were first class, while only 1% and 9% of their total beds, respectively, were for patients who are treated free of charge. Approximately 89% of private beds are in first or second class accommodation. This indicates that the private sector provides for the upper end of the market, either those who can afford to pay or are willing to pay in order to be treated in the private sector. On the other hand, MOHP and university facilities assign the majority of their beds to free care and the least to first class accommodation.

Ninety-two percent of all beds are in urban areas: 35% in urban governorates, 33% in urban Lower Egypt and 24% in urban Upper Egypt. Table 3.13 shows that in all regions free beds account for the greatest percentage of total beds.

Table 3.11 : Number of Beds by Class and Affiliation

² CCOs are required by law to reserve 20% of beds for indigent patients.

Table 3.11 : Number of Beds by Class and Affiliation

| Affiliation/ Class | MOHP | CCO | HIO | University | Private Sector | Other | Total |
|-------------------------------|--------------|-------------|-------------|-------------------|---------------------------|--------------|--------------|
| First | 384 | 798 | 44 | 290 | 587 | 112 | 2215 |
| Second | 1340 | 524 | 330 | 432 | 551 | 611 | 3788 |
| Third | 1287 | 248 | 26 | 496 | 123 | 413 | 2593 |
| Free | 8470 | 154 | 220 | 2215 | 18 | 109 | 11186 |
| Total | 11481 | 1724 | 620 | 3433 | 1279 | 1245 | 19782 |
| Percentage | 58.04 | 8.71 | 3.13 | 17.35 | 6.47 | 6.29 | 100 |

Table 3.12 : Percentage of Beds by Class and Affiliation

| Affiliation/ Class | MOHP | CCO | HIO | University | Private Sector | Other | Total |
|-------------------------------|-------------|------------|------------|-------------------|---------------------------|--------------|--------------|
| First | 3.34 | 46.29 | 7.10 | 8.45 | 45.90 | 9.00 | 11.20 |
| Second | 11.67 | 30.39 | 53.23 | 12.58 | 43.08 | 49.08 | 19.15 |
| Third | 11.21 | 14.39 | 4.19 | 14.45 | 9.62 | 33.17 | 13.10 |
| Free | 73.77 | 8.93 | 35.48 | 64.52 | 1.41 | 8.76 | 56.55 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.13 : Percentage of Beds by Class and Region

| | Urban Governorates | Lower Rural | Lower Urban | Upper Rural | Upper Urban | Total |
|--------------|-------------------------------|------------------------|------------------------|------------------------|------------------------|--------------|
| First | 6.98 | 0.06 | 2.17 | 0.12 | 1.86 | 11.20 |
| Second | 6.78 | 0.77 | 5.01 | 0.87 | 5.71 | 19.15 |
| Third | 5.62 | 0.33 | 3.69 | 0.14 | 3.32 | 13.11 |
| Free | 15.63 | 2.42 | 22.19 | 3.57 | 12.74 | 56.55 |
| Total | 35 | 4 | 33 | 5 | 23.63 | 100 |

The average number of beds in large inpatient facilities is 270, 32 in medium inpatient and approximately 5 in small inpatient facilities to give an overall average of 90 beds per facility. While the average CCO facility has 371 beds, university facilities are much larger with an average of 844 beds. On average, MOHP facilities have 129 beds per facility, but private facilities have only 19 beds. For each facility type, the average number of beds in MOHP facilities exceeds that of the private sector. Universities, CCOs and MOHP facilities are the largest providers of inpatient care, while Others, private and HIO facilities provide the least number.

Table 3.14 shows that within the large inpatient classification there is a large difference in size between affiliations. On average, private facilities have 175 beds, the MOHP has 211 beds and universities have 844 beds. CCOs are nearer to the MOHP facilities in size with 226 beds and Others have 278 beds.

Table 3.14 : Average Number of Beds by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOHP | 211 | 39 | 4 | 129 |
| CCO | 371 | 94 | - | 302 |
| HIO | 226 | 71 | - | 148 |
| University | 844 | - | - | 844 |
| Private | 175 | 24 | 5 | 19 |
| Other | 278 | 29 | 5 | 28 |
| Total | 270 | 32 | 5 | 90 |

Table 3.15 : Average Number of Beds by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| MOHP | 142 | 38 | 199 | 82 | 122 | 129 |
| CCO | 302 | - | - | - | - | 302 |
| HIO | 3 | 73 | 226 | . | 69 | 148 |
| University | 393 | - | 775 | - | 1431 | 844 |
| Private | 23 | 2 | 16 | 16 | 18 | 19 |
| Other | 16 | 10 | 67 | 4 | 78 | 28 |
| Total | 70 | 29 | 150 | 66 | 97 | 90 |

In summary, private facilities have the greatest number of first class beds and the least number of free-of-charge beds. MOHP facilities have the greatest number of second, third and free-of-charge beds, while HIOs have the least number of beds in these classes. Looking at the number of beds by specialty, universities have the greatest number of beds in large facilities, while CCOs, private and Others jointly have the greatest number for medium and small facilities respectively. Private facilities have the least number of beds in large and medium facilities while MOHP facilities have the least number in small facilities.

3.2 Staffing

There are 13,691 physicians in the sample: 7,565 full-time and 6,931 part-time. Table 3.21 and 3.22 present the distribution of full-time and part-time specialists by affiliation and facility, respectively.

Table 3.21 : Total Number of Full-Time Physicians by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOH | 3832 | 586 | 316 | 737 | 5471 |
| CCO | 291 | 15 | - | - | 306 |
| HIO | 238 | 92 | - | 342 | 672 |
| University | 255 | - | - | - | 255 |
| Private | 0 | 194 | 86 | 61 | 341 |
| Other | 67 | 159 | 78 | 216 | 520 |
| Total | 4683 | 1046 | 480 | 1356 | 7565 |

³ “.” implies that there is no facility in the sample in the particular category. “.” implies that the question was not answered.

Table 3.22 : Total Number of Part-Time Physicians by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOH | 1428 | 136 | 45 | 109 | 1718 |
| CCO | 238 | 85 | - | - | 323 |
| HIO | 52 | 137 | - | 688 | 877 |
| University | 528 | - | - | - | 528 |
| Private | 57 | 661 | 252 | 81 | 1051 |
| Other | 49 | 529 | 371 | 680 | 1629 |
| Total | 2352 | 1548 | 668 | 1558 | 6126 |

On average there are 4.06 full-time physicians and 4.66 part-time physicians per outpatient facility in the sample. Table 3.23 shows the average number of physicians, full-time and part-time, in outpatient facilities by affiliation. In private outpatient facilities the number of physicians is almost equally split between full-time and part-time. In contrast, nearly all MOH physicians are full-time, with approximately 5 full-time physicians and 1 part-time physician per outpatient facility.

Table 3.23 : Average Number of Physicians per Outpatient Facility by Affiliation

| | <i>Full-Time</i> | <i>Part-Time</i> |
|--------------|------------------|------------------|
| MOH | 5.38 | 0.80 |
| HIO | 5.70 | 11.47 |
| Private | 2.18 | 2.89 |
| Other | 1.98 | 6.24 |
| Total | 4.06 | 4.66 |

On average there are approximately 31 full-time physicians and 22 part-time physicians in each inpatient facility as shown in Tables 3.24 and 3.25. There is a big gap in the number of full-time physicians in a large facility versus a medium facility: a large inpatient facility has an average of 84 full-time physicians, while a medium inpatient has only 12 full-time physicians. Small inpatient facilities have 8 full-time physicians per facility. On average there are 22 part-time physicians in inpatient facilities: 42 in large inpatient facilities, 18 in medium facilities and 11 in small facilities.

Table 3.24 : Average Number of Full-Time Physicians in Inpatient Facilities by Affiliation

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOH | 91 | 23 | 32 | 61 |
| CCO | 58 | 15 | - | 51 |
| HIO | 119 | 46 | - | 83 |
| University | 64 | - | - | 64 |
| Private | 0 | 5 | 3 | 4 |
| Other | 33 | 8 | 3 | 7 |
| Total | 84 | 12 | 8 | 31 |

Table 3.25 : Average Number of Part-Time Physicians in Inpatient Facilities by Affiliation

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOH | 34 | 5 | 4 | 21 |
| CCO | 48 | 85 | - | 54 |
| HIO | 26 | 69 | - | 47 |
| University | 132 | - | - | 132 |
| Private | 57 | 17 | 9 | 15 |
| Other | 24 | 26 | 16 | 21 |
| Total | 42 | 18 | 11 | 22 |

The percentage distribution of full-time and part-time specialists in the sample is presented in Table 3.26 and 3.27 by affiliation and facility, respectively. As expected, the majority of full-time specialists, by affiliation, are located in large inpatient facilities, with the exception of HIO and other facilities where 40% and 44% of full-time specialists, respectively, work in outpatient facilities. Also the majority of full-time specialists in private facilities are in medium or smaller sized facilities. The distribution of physicians is in line with the distribution of facilities by affiliation (see Table 2.1). The distribution of part-time specialists is similar to that of full-time specialists.

Table 3.26 : Percentage Distribution of Full-Time Specialists by Affiliation and Facility

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOH | 74% | 11% | 4% | 11% | 100% |
| CCO | 94 | 6 | - | - | 100 |
| HIO | 34 | 26 | - | 40 | 100 |
| University | 100 | - | - | - | 100 |
| Private | 0 | 57 | 23 | 19 | 100 |
| Other | 13 | 27 | 16 | 44 | 100 |
| Total | 65 | 15 | 5 | 15 | 100 |

Table 3.27 : Percentage Distribution of Part-Time Specialists by Affiliation and Facility

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOH | 84% | 7% | 3% | 7% | 100% |
| CCO | 87 | 13 | - | - | 100 |
| HIO | 8 | 15 | - | 77 | 100 |
| University | 100 | - | - | - | 100 |
| Private | 6 | 64 | 23 | 7 | 100 |
| Other | 3 | 36 | 21 | 40 | 100 |
| Total | 40 | 25 | 10 | 24 | 100 |

Table 3.28 shows the distribution of specialists by work time, affiliation and region. With the exception of MOHP facilities, the percentage of specialists that are part-time exceeds that of full-time specialists. In particular, approximately three quarter of private and other specialists are part-time. In contrast, approximately three-quarters of specialists in MOHP facilities are full-time. Approximately 37% of full-time and 13% of part-time specialists work for the MOHP, while 2% of all specialists are full-time in private facilities, but 8% work part-time. In all cases, except in the MOHP, the percentage of full-time physicians is less than the percentage of part-time physicians. This suggests that nearly half of all physicians working in institutions potentially may have more than one job.

Ninety-three percent of all specialists are in urban areas: 43% in urban governorates, 29% in urban Lower Egypt and 21% in urban Upper Egypt. Four percent of all specialists are in rural Lower Egypt and 3% in rural Upper Egypt. Fifty percent of specialists work in MOHP affiliated facilities and 10% in private institutions. Urban governorates and urban Upper Egypt have the least percentage of specialists that are full-time of the five regions. In rural Lower Egypt approximately 70% of specialists employed are full-time as are 66% of specialists in urban Lower Egypt and 57% of specialists in rural Upper Egypt.

Table 3.28 : Percentage Distribution of Specialists by Affiliation and Region

| | Full-Time Percentage | Part-Time Percentage | Total Percentage |
|--------------------|---------------------------------|---------------------------------|-----------------------------|
| MOHP | 74.84 | 25.16 | 50.40 |
| CCO | 41.56 | 58.44 | 4.87 |
| HIO | 43.08 | 56.92 | 10.81 |
| University | 38.23 | 61.77 | 7.83 |
| Private | 23.84 | 76.16 | 10.20 |
| Other | 24.38 | 75.62 | 15.89 |
| Total | 53.70 | 46.30 | 100.00 |
| Urban Governorates | 47.31 | 52.69 | 43.27 |
| Lower Rural | 70.86 | 29.14 | 3.51 |
| Lower Urban | 65.99 | 34.01 | 29.49 |
| Upper Rural | 57.14 | 42.86 | 3.09 |
| Upper Urban | 46.12 | 53.88 | 20.65 |
| Total | 53.70 | 46.30 | 100.00 |

3.3 Mode of Payment

Table 3.31 and 3.32 show the percentage distribution of full-time and part-time physicians by payment method and affiliation. The survey identified 4 different payment methods: fixed salary, fee per patients, share of fee charged to patient and other. Approximately 89% of all full-time physicians receive a fixed salary, but only 40% of part-time physicians receive a fixed payment. Twenty-six percent of part-time physicians receive a share of the fee charged and 22% receive payment according to the number of patients seen. This contrasts with only 6% of full-time physicians receiving a percentage of the fee and 2% according to the number of patients. This indicates that there is potentially a greater incentive for part-time physicians to induce demand than for full-time physicians. Other methods of payment account for approximately 12% of part-time and 3% of full-time physicians. Nearly all full-time physicians are paid a fixed salary in MOHP, CCO and HIO facilities. All full-time physicians in universities receive a fixed salary. In contrast, percentage of fee charged to patients is the most common payment method for full-time physicians in private and other facilities.

Table 3.31 : Percentage Distribution of Payment Methods for Full-Time Physicians

| | <i>Fixed Salary</i> | <i>Number of Patients</i> | <i>Percentage of Fee</i> | <i>Other</i> | <i>Total</i> |
|--------------|---------------------|---------------------------|--------------------------|--------------|--------------|
| MOHP | 97.13 | 0.02 | 0.67 | 2.18 | 100 |
| CCO | 97.03 | 0.00 | 0.00 | 2.97 | 100 |
| HIO | 97.42 | 0.14 | 0.00 | 2.44 | 100 |
| University | 100.00 | 0.00 | 0.00 | 0.00 | 100 |
| Private | 25.00 | 26.65 | 40.11 | 8.24 | 100 |
| Other | 25.86 | 15.00 | 53.97 | 5.17 | 100 |
| Total | 88.90 | 2.31 | 6.18 | 2.60 | 100 |

Table 3.32 : Percentage Distribution of Payment Methods for Part-Time Physicians

| | <i>Fixed Salary</i> | <i>Number of Patients</i> | <i>Percentage of Fee</i> | <i>Other</i> | <i>Total</i> |
|--------------|---------------------|---------------------------|--------------------------|--------------|--------------|
| MOHP | 91.40 | 3.59 | 2.48 | 2.53 | 100 |
| CCO | 1.41 | 65.96 | 11.50 | 21.13 | 100 |
| HIO | 34.96 | 37.68 | 0.00 | 27.36 | 100 |
| University | 63.54 | 7.60 | 0.00 | 28.87 | 100 |
| Private | 17.71 | 60.53 | 19.95 | 1.81 | 100 |
| Other | 1.28 | 26.90 | 66.31 | 5.50 | 100 |
| Total | 39.68 | 27.99 | 21.95 | 10.38 | 100 |

Almost half of all facilities reported having a declared fee schedule and 15% price discriminate as shown in Table 3.33. By affiliation, half or more of all facilities, with the exception of MOHP facilities, have a declared price schedule. HIO is an outlier with only 8% of its facilities having a declared price schedule. By region, urban areas tend to have a higher percentage of institutions with price schedules than rural areas. Urban areas also have a higher degree of price discrimination with 21% of facilities in urban governorates, 18% in urban Lower Egypt and 13% in urban Upper Egypt engaging in price discrimination. This contrasts with only 5% of institutions in rural Lower and 4% in rural Upper Egypt declaring that they price discriminate. By affiliation, 50% of all CCOs and university facilities and 26% of private facilities price discriminate, while only 7% of MOHP facilities engage in price discrimination.

Table 3.33 : Percentage of Institutions with Fee Schedule and/or Price Discrimination

| | <i>Fee Schedule</i> | <i>Price Discriminate</i> |
|--------------------|---------------------|---------------------------|
| MOHP | 49.77 | 7.44 |
| CCO | 83.33 | 50.00 |
| HIO | 7.81 | 4.69 |
| University | 50.00 | 50.00 |
| Private | 54.26 | 27.66 |
| Other | 63.64 | 19.48 |
| Total | 49.91 | 14.90 |
| Urban Governorates | 49.07 | 21.03 |
| Lower Rural | 43.75 | 5.00 |
| Lower Urban | 46.74 | 18.48 |
| Upper Rural | 38.18 | 3.64 |
| Upper Urban | 66.67 | 12.50 |
| Total | 49.91 | 14.90 |

3.4 Types of Services

Table 3.41 shows the number of outpatient clinics by specialty and number of working days per week. On average outpatient clinics are open 6 days a week. The top 5 clinics, in terms of the total number of clinics in all facilities, are internal medicine, dentistry, obstetrics and gynecology, general surgery and pediatrics. The bottom 5 are cancer, fever, neurology, special surgery and psychiatry.

Table 3.41 : Number of Outpatient Clinics in each Specialization and Number of Working Days per Week

| <i>Specialty</i> | <i>Number of days per week</i> | | | | | | | <i>Number of Clinics</i> |
|-------------------|--------------------------------|----------|----------|----------|----------|----------|----------|--------------------------|
| | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> | <i>6</i> | <i>7</i> | |
| Internal Medicine | 1 | 7 | 15 | 5 | 14 | 332 | 68 | 442 |
| Fever | - | 1 | 2 | - | - | 17 | 3 | 23 |
| Ob/Gyn | 2 | 14 | 26 | 9 | 6 | 188 | 44 | 289 |
| Pediatrics | 1 | 4 | 13 | 4 | 5 | 151 | 47 | 225 |
| Othopedics | 6 | 12 | 20 | 3 | 2 | 109 | 28 | 180 |
| ENT | 4 | 10 | 38 | 9 | 4 | 130 | 29 | 224 |
| Urology | 5 | 8 | 16 | 3 | 1 | 91 | 24 | 148 |
| Ophthalmology | 1 | 11 | 30 | 5 | 3 | 124 | 20 | 194 |
| Dermatology | 1 | 8 | 25 | 3 | 5 | 108 | 20 | 170 |
| Chest | 2 | 6 | 10 | 4 | - | 59 | 6 | 87 |
| Psychiatry | 3 | 2 | 12 | 3 | 2 | 29 | 2 | 53 |
| Cardiology | 2 | 8 | 12 | 1 | 1 | 43 | 7 | 74 |
| Cancer | 5 | 2 | 3 | 2 | - | 9 | 1 | 22 |
| Neurology | 5 | 6 | 8 | - | - | 19 | 3 | 41 |
| Denistry | 3 | 6 | 17 | 8 | 10 | 256 | 48 | 348 |
| General Surgery | - | 9 | 18 | 5 | 9 | 161 | 44 | 246 |
| Special Surgery | 1 | 9 | 5 | 1 | 1 | 21 | 5 | 43 |
| Family Planning | 4 | 5 | 7 | 1 | 1 | 127 | 5 | 150 |
| Other | - | 2 | 10 | 3 | - | 61 | 10 | 86 |

On average, each institution offers approximately 10 areas of specialization with internal medicine, dentistry, obstetrics and gynacology, pediatrics and ENT being the most popular. It is not the case that private clinics are highly specialized or form small complementary specialty groups; rather, they provide scaled down versions of services offered by non-private institutions. Table 3.42 presents the average number of services offered and physicians on staff by affiliation.

Table 3.42 : Average Number of Services Offered by Affiliation and Facility

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOHP | 14.5 | 10.0 | 10.0 | 7.9 | 9.5 |
| CCO | 17.0 | 14.0 | - | - | 16.5 |
| HIO | 17.0 | 18.5 | - | 8.2 | 8.8 |
| University | 16.2 | - | - | - | 16.2 |
| Private | 22.0 | 11.5 | 9.6 | 6.2 | 9.5 |
| Other | 19.5 | 15.4 | 11.9 | 8.2 | 9.9 |
| Total | 15.3 | 12.1 | 10.6 | 7.9 | 9.7 |

Tables 3.43-3.44 show total and average number of outpatient visits and the distribution of outpatient visits by top and bottom 5 specialties. Total outpatient visits in the month prior to the survey was 1,219,264 visits. Fifty-four percent of all outpatient visits took place in MOHP, 20% in Other, 14% in HIO, 7% in university, 3% in Private and 2% in CCO facilities. The average number of outpatient visits in all institutions is 2,271 per month, but ranges from 1,253 in outpatient facilities to 8,876 in MOHP facilities.

Table 3.43 : Total Number of Outpatient Visits in the Last Month by Affiliation and Facility

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|----------------|
| MOHP | 362547 | 73108 | 49888 | 169394 | 654937 |
| CCO | 24314 | 2207 | - | - | 26521 |
| HIO | 5699 | 12224 | - | 153652 | 171575 |
| University | 82652 | - | - | - | 82652 |
| Private | 245 | 23618 | 14115 | 4617 | 42595 |
| Other | 21596 | 93982 | 34677 | 90729 | 240984 |
| Total | 497053 | 205139 | 98680 | 418392 | 1219264 |

Table 3.44 : Percentage Distribution of Outpatient Visits in the Last Month by Affiliation

| | <i>MOHP</i> | <i>CCO</i> | <i>HIO</i> | <i>University</i> | <i>Private</i> | <i>Other</i> | <i>Total</i> |
|--|-------------|------------|------------|-------------------|----------------|--------------|----------------|
| Total Number | 654937 | 26521 | 171575 | 82652 | 42595 | 240984 | 1219264 |
| Total Percentage | 53.72 | 2.18 | 14.07 | 6.78 | 3.49 | 19.76 | 100.00 |
| Top 5 Departments by Number of Outpatient Visits | | | | | | | |
| Internal Medicine | 10.28 | 0.39 | 3.37 | 0.85 | 1.04 | 4.68 | 20.61 |
| Emergency | 9.45 | 0.35 | 0.58 | 0.77 | 0.25 | 0.54 | 11.96 |
| Dentistry | 5.13 | 0.08 | 1.07 | 0.08 | 0.29 | 2.37 | 9.01 |
| Pediatrics | 4.95 | 0.02 | 0.24 | 0.63 | 0.27 | 1.84 | 7.94 |
| Other | 3.12 | 0.34 | 1.89 | 0.37 | 0.03 | 0.65 | 6.40 |
| Bottom 5 Departments by Number of Outpatient Visits | | | | | | | |
| Psychiatry | 0.47 | 0.03 | 0.31 | 0.33 | 0.02 | 0.07 | 1.23 |
| Cardiology | 0.23 | 0.02 | 0.10 | 0.11 | 0.10 | 0.28 | 0.84 |
| Special Surgery | 0.11 | 0.10 | 0.13 | 0.22 | 0.03 | 0.00 | 0.58 |
| Neurology | 0.03 | 0.08 | 0.15 | 0.00 | 0.02 | 0.18 | 0.46 |
| Cancer | 0.00 | 0.00 | 0.00 | 0.34 | 0.01 | 0.00 | 0.35 |

The top 5 departments in terms of outpatient visits by specialty are internal medicine, emergency care, dentistry, pediatrics and other. The bottom 5 are psychiatry, cardiology, special surgery, neurology and cancer. Table 3.45 - 3.46 present the average number of outpatient visits per facility by affiliation and facility type and by affiliation and region, respectively.

Table 3.45 : Average Number of Outpatient Visits in the Last Month by Affiliation and Facility

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Average</i> |
|----------------|------------------------|-------------------------|------------------------|-------------------|----------------|
| MOHP | 9424 | 5219 | 6658 | 1472 | 3751 |
| CCO | 5473 | 2207 | - | - | 4820 |
| HIO | 2832 | 6120 | - | 3418 | 3486 |
| University | 19518 | - | - | - | 19518 |
| Private | 2479 | 861 | 391 | 174 | 507 |
| Other | 13255 | 5355 | 1681 | 856 | 1705 |
| Average | 9648 | 3564 | 1997 | 1511 | 2745 |

Table 3.46 : Average Number of Outpatient Visits in the Last Month by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Average</i> |
|----------------|---------------------------|--------------------|--------------------|--------------------|--------------------|----------------|
| MOHP | 6177 | 1063 | 5274 | 1781 | 5675 | 3751 |
| CCO | 4820 | - | - | - | - | 4820 |
| HIO | 4805 | 110 | 3831 | 97 | 2596 | 3486 |
| University | 6840 | - | 12614 | - | 46005 | 19518 |
| Private | 749 | 101 | 486 | 133 | 277 | 507 |
| Other | 1718 | 368 | 3607 | 860 | 1156 | 1705 |
| Average | 3161 | 828 | 3847 | 1443 | 3128 | 2745 |

The total number of inpatient admissions in the month prior to the survey for 176 inpatient facilities was 53,799: 80% in large inpatient facilities, 18% in medium inpatient facilities and 2% in small inpatient facilities. MOHP facilities had 61% of all admissions, universities 15%, private and Others 7% each, HIOs 6% and CCOs 4%. MOHP facilities and universities had 68% and 19% respectively of inpatient visits to large inpatient facilities while private facilities had approximately 1%. In medium facilities MOHP facilities attended to 35% of inpatient visits, private facilities to 30% and Others to 24%. Others and private facilities had 63% and 31% of admissions to small facilities while MOHP facilities dealt with the remaining 6%. Therefore the main providers of inpatient care according to facility type are: MOHP and universities in large facilities, MOHP and private in medium facilities, and Others and private for small facilities.

The average number of admissions for 176 inpatient facilities in the sample is 306 per facility with 781 in large facilities, 126 in medium and 23 in small inpatient facilities. Again, universities have by far the largest number of admissions with an average of 2,080 per month, followed by HIOs with 792, MOHP facilities with 448 and CCOs with 427. Others and Private have on average 100 and 72 admissions per facility per month.

Table 3.47 : Average Number of Admissions by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOHP | 695 | 137 | 11 | 448 |
| CCO | 468 | 264 | - | 427 |
| HIO | 1170 | 415 | - | 792 |
| University | 2080 | - | - | 2080 |
| Private | 591 | 90 | 15 | 72 |
| Other | 320 | 137 | 37 | 100 |
| Total | 781 | 126 | 23 | 306 |

Table 3.48 : Average Number of Admissions by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| MOHP | 353 | 96 | 648 | 312 | 609 | 442 |
| CCO | 427 | - | - | - | - | 427 |
| HIO | - | 576 | 1170 | - | 253 | 792 |
| University | 2516 | - | 1224 | - | 3354 | 2080 |
| Private | 84 | - | 114 | 10 | 37 | 66 |
| Other | 103 | 9 | 153 | 3 | 105 | 92 |
| Total | 225 | 112 | 467 | 242 | 358 | 306 |

Table 3.49 shows the average number of inpatient nights by affiliation and facility based on responses from 170 inpatient facilities. The overall average is 1,512 per month, but this ranges from 4,231 for large facilities to 32 for small facilities with 518 inpatient nights on average in medium facilities. As universities have the greatest number of beds and specialists, they also have the highest number of inpatient nights with 14,225, followed by CCO facilities with 5,831, MOHP with 2,085 and private facilities with 321. HIO facilities have the highest average for medium sized facilities with 2,034 inpatient nights per month, followed by CCO, MOHP, Private and Other. In small facilities, Others have the largest average inpatient nights with 46, then private with 26 and MOHP with only 15 inpatient nights.

Table 3.49 : Average Number of Inpatient Nights by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOHP | 3233 | 698 | 15 | 2085 |
| CCO | 10503 | 1159 | - | 5831 |
| HIO | 4738 | 2034 | - | 3386 |
| University | 14225 | - | - | 14225 |
| Private | 4137 | 386 | 26 | 321 |
| Other | 1088 | 285 | 46 | 222 |
| Total | 4230 | 518 | 32 | 1511 |

On average, 45% of the total number of patients in inpatient facilities are treated free of charge. A very high ratio of patients in MOHP facilities -- 73% -- are treated free of charge, followed by 72% of University patients. HIO facilities have the lowest percentage of patients treated free of charge with 2%, followed by Private with 9% and Others with 18%. Eighty-six percent of all patients attending MOHP outpatient facilities are treated free of charge as are 88% of HIO patients, 26% of Others and 20% of all private outpatients. Non-paying patients attend large inpatient and outpatient facilities, with 68% and 61% respectively of all patients in these facilities being treated free of charge. The percentage is much lower in medium and small inpatient

facilities with 39% and 24% respectively of all patients not paying. These figures are shown in Table 3.410.

Table 3.410 : Average Percentage of Cases Treated Free of Charge to Total Number of Patients by Affiliation and Facility

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOHP | 77 | 69 | 70 | 86 | 81 |
| HIO | 17 | - | - | - | 17 |
| CCO | 2 | - | - | 88 | 75 |
| University | 72 | - | - | - | 72 |
| Private | - | 9 | 9 | 20 | 12 |
| Other | 55 | 16 | 16 | 26 | 23 |
| Total | 68 | 39 | 24 | 61 | 54 |

In addition to providing treatment to the general public, facilities can also contract for the treatment of patients or be a member of the School Health Insurance program. Table 3.411 shows the percentage of facilities by affiliation and facility type and Table 3.412 facilities by region involved in these programs. On average 32% of all facilities have contracts for the treatment of patients, but only 18% are involved in the School Health Insurance program. All CCO and university facilities and over half of private facilities have contracts, but only 35% of MOHP facilities, 20% of HIOs and 18% of Others have similar contracting arrangements. Large and medium inpatient facilities have the highest proportion of facilities with contracts. Table 3.412 shows that involvement with the School Health Insurance program is concentrated in large inpatient facilities. All large inpatient HIO and university facilities participate, but only 11.67% of outpatient HIOs are enrolled in the program. Amongst small inpatient facilities 3.7% of private facilities are the only facilities involved.

Table 3.411 : Percentage of Institutions with Contracts for the Treatment of Patients

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOHP | 78.57 | 30.77 | 0 | 24.82 | 34.88 |
| CCO | 100 | 100 | - | - | 100 |
| HIO | 100 | 50 | - | 16.67 | 20.31 |
| University | 100 | - | - | - | 100 |
| Private | 100 | 71.05 | 48.15 | 25 | 51.06 |
| Other | 50 | 70 | 21.74 | 6.42 | 17.53 |
| Total | 82.14 | 58.62 | 30 | 17.37 | 32.22 |

Table 3.412 : Percentage of Institutions Involved in School Health Insurance Program

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOHP | 59.52 | 26.92 | 0 | 23.36 | 29.77 |
| CCO | 60 | 100 | 0 | 0 | 66.67 |
| HIO | 100 | 50 | 0 | 11.67 | 15.63 |
| University | 100 | 0 | 0 | 0 | 100 |
| Private | 0 | 26.32 | 3.70 | 3.57 | 12.77 |
| Other | 50 | 15 | 0 | 0 | 2.60 |
| Total | 62.50 | 25.29 | 1.67 | 11.98 | 18.25 |

Tables 3.413 and 3.414 show the average number of patients covered by contract for outpatient visits and inpatient visits. On average 609 patients per facility per month are covered by contract for outpatient visits, while only 80 are covered for inpatient visits. Again, the larger institutions provide the most contract care with large inpatient facilities covering approximately 1,234 patients' outpatient visits and 202 inpatient visits. This contrasts with 364 outpatient visits in medium inpatient facilities, 45 in small inpatient and 533 in outpatient facilities, and 48 inpatient visits in medium facilities and 2 in small facilities.

Table 3.413 : Average Number of Patients per Facility Covered Under Contract for Outpatient Visits

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOHP | 935 | 947 | . | 515 | 745 |
| CCO | 2639 | 933 | - | - | 2355 |
| HIO | . | 0 | - | 1549 | 1356 |
| University | 1860 | - | - | - | 1860 |
| Private | 991 | 84 | 57 | 74 | 98 |
| Other | . | 518 | 20 | 55 | 279 |
| Total | 1234 | 364 | 45 | 533 | 609 |

Table 3.414 : Average Number of Patients per Facility Covered Under Contract for Inpatient Visits

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOHP | 140 | 12 | . | 73 |
| CCO | 202 | 164 | - | 195 |
| HIO | 1170 | 576 | - | 416 |
| University | 165 | - | - | 165 |
| Private | 236 | 39 | 3 | 32 |
| Other | . | 38 | 0 | 24 |
| Total | 202 | 48 | 2 | 80 |

IV. Efficiency Measures

The following section presents various efficiency measures by affiliation type and region. This is the first time such measures have been calculated for the private sector in Egypt and as such provide the first real opportunity to assess the role of the private sector in the provision of health care in Egypt.

The average length of stay was calculated by dividing the number of inpatient nights by the number of admissions and is shown in Table 4.1 by affiliation and facility type and Table 4.2 by affiliation and region. The average length of stay, based on responses from 170 facilities, was 4.5 nights. By facility, average length of stay is 6.7, 4.5 and 1.8 days for large, medium and small facilities respectively. These figures suggest that different types of treatment and surgeries are carried out in different sized facilities with more specialist care, and therefore more inpatient care, taking place in larger facilities. For example, the average length of stay in large CCOs is 14 days and only 4.4 days in medium CCOs. Also, the average number of full-time specialists in large CCOs is 57, but only 18 in medium sized CCOs. On average, CCOs have the longest length of stay with 9.2 days, followed by universities, the MOHP, HIOs, private

facilities and Others. The rankings for full-time specialists are universities with the greatest number, CCOs, the MOHP, HIOs, private clinics, and Others with the least.

Table 4.1 : Average Length of Stay by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOHP | 6.81 | 6.30 | 1.60 | 6.20 |
| CCO | 14.04 | 4.39 | - | 9.22 |
| HIO | 4.56 | 5.58 | - | 5.07 |
| University | 6.64 | - | - | 6.64 |
| Private | 7.00 | 4.32 | 1.74 | 3.40 |
| Other | 3.29 | 2.10 | 2.04 | 2.14 |
| Total | 6.72 | 4.51 | 1.83 | 4.51 |

Table 4.2 : Average Length of Stay by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| MOHP | 5.41 | 6.80 | 9.87 | 4.35 | 3.85 | 6.20 |
| CCO | 9.22 | - | - | - | - | 9.22 |
| HIO | - ⁴ | 3.85 | 4.56 | - | 7.31 | 5.07 |
| University | 2.66 | - | 8.72 | - | 6.47 | 6.64 |
| Private | 2.56 | - | 2.55 | 1.31 | 5.03 | 3.40 |
| Other | 1.92 | 3.51 | 3.26 | 1.33 | 1.28 | 2.14 |
| Total | 3.37 | 5.89 | 6.34 | 3.65 | 4.21 | 4.51 |

Table 4.3 compares the average length of stay obtained in this survey for MOHP, CCO and HIO facilities with other sources. Average length of stay for MOHP and CCO facilities was taken from "Health Care Financing in Egypt" by Kemprecos and Boutros (KB), 1993. The measure for HIO came directly from HIO offices in 1997. The largest gap between the DDM and other source measure is for MOHP facilities: DDM finds an average length of stay of 6.2 days, while Kemprecos and Boutros calculate the measure to be 4.8 days. This is most likely due to differences in sampling between the two reports. Approximately 54% of inpatient facilities in the DDM survey are in urban governorates. The different measures for CCO and HIO facilities are comparable.

Table 4.3: Comparison of Average Length Of Stay Measure (Days)

| <i>Affiliation</i> | <i>Other</i> | <i>DDM</i> |
|--------------------|--------------|------------|
| MOHP | 4.8 (KB) | 6.2 |
| CCO | 8.3 (KB) | 9.2 |
| HIO | 4.95 (HIO) | 5.1 |

The monthly occupancy rate, shown in Table 4.4-4.5 was calculated as follows based on the responses of 154 inpatient facilities:

$$[\text{Number of Inpatient Nights} * 100] / [\text{Number of Beds} * 30]$$

The overall average occupancy rate reported was 26.07%: 40.67% in large facilities, 19.76% in medium and 18.97% in small facilities. By affiliation, HIOs reported the highest occupancy rate

⁴ There are no HIO inpatient facilities in urban governorates in the sample.

with 71.91%, followed by 50.15% in universities, 43.89% in CCO facilities and 33.04% in MOH facilities. Other and Private facilities have the lowest occupancy rate with 17.63% and 16.97% respectively. The highest occupancy rates were reported in medium HIO facilities with 89.32% and the large private facility with a rate of approximately 79%. The lowest rates were in the small facilities and other large and medium facilities. MOH facilities had occupancy rates of 38.72%, 27.45% and 15.69% in large, medium and small facilities. The corresponding rates for private facilities were 78.80%, 19.76% and 18.97%.

Table 4.4 : Monthly Occupancy Rate by Affiliation and Facility Type

| | Large Inpatient | Medium Inpatient | Small Inpatient | Total |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOH | 38.72 | 27.45 | 15.69 | 33.04 |
| CCO | 46.68 | 41.10 | - | 43.89 |
| HIO | 63.20 | 89.32 | - | 71.91 |
| University | 50.15 | - | - | 50.15 |
| Private | 78.80 | 14.68 | 17.08 | 16.97 |
| Other | 14.04 | 12.93 | 22.80 | 17.63 |
| Total | 40.67 | 19.76 | 18.97 | 26.07 |

Table 4.5 : Occupancy Rate by Affiliation and Region

| | Large Inpatient | Medium Inpatient | Small Inpatient | Total |
|--------------------|------------------------|-------------------------|------------------------|--------------|
| Urban Governorates | 33.16 | 16.79 | 17.80 | 20.54 |
| Lower Rural | 42.70 | 25.07 | 19.54 | 25.15 |
| Lower Urban | 44.91 | 25.87 | 29.12 | 36.73 |
| Upper Rural | 45.51 | 9.69 | 3.33 | 25.39 |
| Upper Urban | 38.63 | 20.50 | 10.38 | 24.42 |
| Total | 40.67 | 19.76 | 18.97 | 26.07 |

Table 4.6 presents a comparison of the occupancy rates calculated in this report for MOHP, CCO and HIO facilities with other sources. Again, the greatest difference between sources is for MOHP facilities: Kemprecos and Boutros report an occupancy rate of 49%, while DDM finds a much lower rate of 32.6%. This may be explained by differences in sampling as discussed when comparing average length of stay measures. In addition, there may be seasonal variations in effect. The DDM survey has reported data for one month to calculate occupancy rates, which will not capture seasonal variation. Finally, there is always the issue of the accuracy of information reported by facilities.

Table 4.6: Comparison of Annual Occupancy Rates

| Affiliation | Other | DDM |
|--------------------|--------------|------------|
| MOHP | 49% (KB) | 32.6% |
| CCO | 56% (KB) | 43.4% |
| HIO | 66% (HIO) | 70.9% |

The bed turnover rate in Table 4.7-4.8 measures the average number of patient admissions per bed during a month. The average number of patient admissions per bed is approximately 3.4 for all facilities. The highest turnover rates are found in HIO facilities where the rate is 5.5 and 4.7

for large and medium facilities respectively. The lowest turnover rate is found in large CCO and other facilities. The turnover rates in MOHP and private facilities do not differ widely between the 2 affiliation types, 2.8 and 3.0 respectively.

Table 4.7 : Bed Turnover Rate by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|--------------|
| MOHP | 3.18 | 2.04 | 3.49 | 2.82 |
| CCO | 1.45 | 2.81 | - | 1.72 |
| HIO | 5.51 | 4.74 | - | 5.13 |
| University | 3.37 | - | - | 3.37 |
| Private | 3.38 | 2.94 | 3.21 | 3.05 |
| Other | 1.16 | 5.12 | 5.30 | 4.99 |
| Total | 3.09 | 3.17 | 4.08 | 3.36 |

Table 4.8 : Bed Turnover Rate by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| MOHP | 2.75 | 1.18 | 2.90 | 2.64 | 3.80 | 2.82 |
| CCO | 1.72 | - | - | - | - | 1.72 |
| HIO | - | 5.82 | 5.51 | - | 3.67 | 5.13 |
| University | 5.57 | - | 2.79 | - | 2.34 | 3.37 |
| Private | 4.05 | - | 3.76 | 0.56 | 1.77 | 3.05 |
| Other | 5.73 | 1.45 | 6.66 | 0.75 | 2.99 | 4.99 |
| Total | 4.12 | 1.57 | 3.78 | 2.17 | 2.79 | 3.36 |

The overall average number of doctors per bed⁵ in the sample is 0.77 as shown in Table 4.9-4.10. The ratio of doctors per bed decreases with the size of the facility: 0.95 in medium facilities and 0.5 in large facilities. The highest ratio is 13.6 doctors per bed in small MOHP facilities. This is driven by 2 facilities, one with 110 physicians and 3 beds, the other with 134 physicians and 2 beds. The lowest ratio is in university facilities where there are approximately 0.2 doctors per bed. The ratio of doctors per bed in large MOHP facilities (0.66) is twice that of the large private facility (.33). For medium facilities the difference is marginal: 1.3 physician per bed in MOHP facilities and 1.2 in private facilities. The ratio increases to 2.3 in small private facilities and is 4.4 for other small facilities.

⁵ Small inpatient facilities were omitted as they have on average only 5 beds per facility.

Table 4.9 : Average Number of Physicians per Bed by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|--------------|
| MOHP | 0.56 | 0.47 | 0.53 |
| CCO | 0.32 | 1.06 | 0.45 |
| HIO | 0.65 | 1.62 | 1.14 |
| University | 0.16 | - | 0.16 |
| Private | 0.33 | 1.02 | 1.01 |
| Other | 0.21 | 1.37 | 1.26 |
| Total | 0.50 | 0.95 | 0.77 |

Table 4.10 : Average Number of Physicians per Bed by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| MOHP | 0.65 | 0.38 | 0.67 | 0.34 | 0.47 | 0.53 |
| CCO | 0.45 | - | - | - | - | 0.45 |
| HIO | - | 0.18 | 0.65 | - | 3.06 | 1.14 |
| University | 0.03 | - | 0.12 | - | 0.38 | 0.16 |
| Private | 1.20 | 0.58 | 1.47 | 0.50 | 0.73 | 1.01 |
| Other | 1.60 | 0.67 | 0.43 | - | 0.95 | 1.26 |
| Total | 1.02 | 0.42 | 0.80 | 0.36 | 0.70 | 0.77 |

The average number of nurses to physicians is 1.75, which includes both full-time and part-time physicians in 534 facilities. By facility type, there are 2.5 nurses in outpatient facilities, 1.9 in large inpatient, 1.4 in medium inpatient and 0.6 in small inpatient facilities. University facilities have the highest ratio of nurses per physician with 6.3 nurses per physician and Others have the lowest with only 0.4 nurses per physician. In between, MOHP facilities have on average 3.2, CCO 1.6, HIO 1.1 and private with 0.9 nurses per physician. The average number of nurses to physicians is shown in Table 4.11-4.12.

Table 4.11 : Average Number of Nurses per Physician by Affiliation and Facility Type

| | <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> | <i>Outpatient</i> | <i>Total</i> |
|--------------|------------------------|-------------------------|------------------------|-------------------|--------------|
| MOHP | 1.47 | 2.29 | 1.32 | 4.04 | 3.19 |
| CCO | 1.73 | 0.95 | - | - | 1.60 |
| HIO | 1.16 | 2.59 | - | 0.08 | 1.13 |
| University | 6.26 | - | - | - | 6.26 |
| Private | 3.58 | 1.33 | 0.59 | 0.37 | 0.86 |
| Other | 1.69 | 0.47 | 0.35 | 0.01 | 1.75 |
| Total | 1.87 | 1.44 | 0.62 | 1.11 | 1.75 |

Table 4.12 : Average Number of Nurses per Physician by Affiliation and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| MOHP | 2.34 | 5.19 | 2.87 | 3.04 | 1.36 | 3.19 |
| CCO | 1.60 | - | - | - | - | 1.60 |
| HIO | 0.81 | 1.62 | 1.38 | 1.78 | 1.22 | 1.13 |
| University | 13.19 | - | 5.14 | - | 1.56 | 6.26 |
| Private | 0.68 | 0.40 | 0.37 | 0.53 | 1.56 | 0.86 |
| Other | 0.39 | 0.34 | 0.75 | 0.51 | 0.35 | 0.42 |
| Total | 1.05 | 3.94 | 1.73 | 2.48 | 1.11 | 1.75 |

On average, physicians in 176 facilities, for which data was available, admit 6 patients per month. Breaking down average admissions by facility type: large facilities had 10.5 admissions per physician, medium had 5.7 and small facilities had 1.6. Universities had by far the highest admissions per physician with 54.5 while Others only had 2.11. The admissions per doctor in private institutions at 4.7 was lower than that in MOHP facilities with 6.3. CCO facilities at 4.7 is similar to private facilities, while HIO facilities had the second highest ratio with 12.4, but still much lower than the ratio for universities. Physicians in 179 facilities were responsible for an average of 33 patient days per month. Unsurprisingly, this is much greater in large facilities (55 patient days) and declined with the size of the facility: 37 patient days per physician in medium facilities and 4 days in small facilities. Physicians in universities have by far the greatest number of patient days with 176 days, next are HIO facilities with 49 days, MOHP facilities with 42 days and private with 29 days. The lowest patient days were in Others with 5 patient days per physician and CCO facilities with 25 days.

V. Revenues and Expenditures

This section examines revenues and expenditures of private facilities. All other facilities are omitted due to insufficient response. For example, 86% of MOHP facilities and 92% of HIO facilities reported either receiving zero funding or did not know the funding received from government grants and subsidies. This is implausible as the main source of funding for these facilities is government grants and subsidies. The price and fee structure in place for the private market is also examined.

5.1 Revenue and Expenditure

Table 5.11 shows average revenue by source per annum for private facilities. In general, fees and contracts are the main sources of income for private institutions. Large and medium facilities were not awarded any government grants and did not receive any donations. However, the average donation to small inpatient and outpatient facilities were very small at L.E. 12 and L.E. 208, respectively. The average grant to a small inpatient facility was substantial at L.E. 11,765.

Table 5.11: Average Revenue per Annum by Source and Facility for Private Institutions

| | <i>Fees</i> | <i>Contracts</i> | <i>Grants</i> | <i>Donations</i> | <i>Average Total</i> |
|----------------------|---------------|------------------|---------------|------------------|----------------------|
| Large Inpatient | 6350000 | 6350000 | 0 | 0 | 12700000 |
| Medium Inpatient | 229207 | 61141 | 0 | 0 | 229222 |
| Small Inpatient | 41076 | 10248 | 11765 | 12 | 39730 |
| Outpatient | 6767 | 527 | 0 | 208 | 6431 |
| Average Total | 195652 | 116265 | 2740 | 71 | 241098 |

Figure 5.1 shows the percentage distribution of revenue by source for private facilities per annum in the sample. Fees account for approximately 62% of total revenue earned by sampled private institutions. Contract payments account for the remainder of revenue earned. Grants and donations account for only 1.34% of total revenue.

Figure 5.1: Percentage Share of Annual Revenue by Source

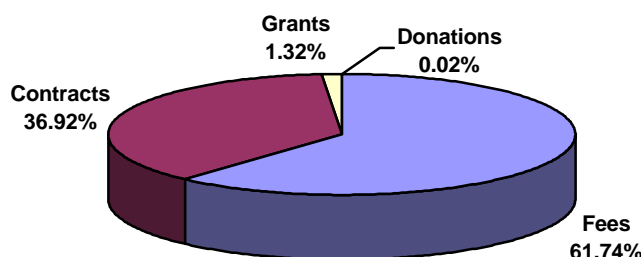


Table 5.12 presents average total revenue and average total revenue per bed by facility for private institutions. On average the large private facility in the sample earns L.E. 72,771 per bed per annum. Medium facilities earn only L.E. 8,839 per bed and small facilities earned L.E. 11,680 per bed per annum. The figure for small inpatient facilities is misleading as these facilities have an average of 5 beds and so focus on ambulatory care rather than inpatient care⁶.

Table 5.12 : Average Revenue and Average Revenue per Bed per Annum by Facility for Private Institutions

| | <i>Average Total Revenue</i> | <i>Average Revenue per Bed</i> |
|------------------|------------------------------|--------------------------------|
| Large Inpatient | 12700000 | 72571 |
| Medium Inpatient | 229222 | 8839 |
| Small Inpatient | 39730 | 11680 |
| Total | 340654 | 11321 |

Expenditures were divided into the following three categories: operating and capital expenditures and salaries. Operating expenditures include rent, utilities, drugs and medical supplies,

⁶ On average large inpatient have 270 beds per facility and medium inpatient 32 beds per facility.

maintenance, supplies, staff training, insurance, taxes and other miscellaneous items. Capital expenditures consist of land purchases, construction, equipment purchase, vehicles, furniture and other capital purchases.

Table 5.13 shows average operating and capital expenditures reported by private facilities per annum. The operating expenditures per facility is on average L.E. 74,198 per annum. Average operating expenditures by facility are as follows: L.E. 154,579 in medium inpatient, L.E. 35,264 in small inpatient and L.E. 5,304 in outpatient facilities. Corresponding capital expenditures are L.E. 137,215 for medium inpatient, L.E. 39,031 for small inpatient facilities and L.E. 5,873 for outpatient clinics.

Table 5.13 : Average Operating and Capital Expenditures by Private Facility per Annum

| | <i>Average Operating Expenditure</i> | <i>Average Capital Expenditure</i> |
|----------------------|---|---|
| Large Inpatient | . | 2390000 |
| Medium Inpatient | 154579 | 137215 |
| Small Inpatient | 35264 | 39031 |
| Outpatient | 5304 | 5873 |
| Average Total | 74198 | 93856 |

5.2 Prices and Fees

Tables 5.21 shows the average cost of a bed per night by class and facility type in a private institution. The average cost varies dramatically with the size of the institution. A first class bed in a small institution costs only L.E. 24 per night, but costs L.E. 270 in a large institution. The average cost per bed in second class accommodation is approximately 60% the cost of a first class class bed. The difference between the cost of a third class bed in a medium and small institution is slight at L.E. 10 and L.E. 7 per night.

Table 5.21 : Average Cost of Private Bed per Night by Class and Institution

| <i>Large Inpatient</i> | <i>Medium Inpatient</i> | <i>Small Inpatient</i> |
|-------------------------------|--------------------------------|-------------------------------|
| First Class Bed | | |
| 270 | 42 | 24 |
| Second Class Bed | | |
| . | 27 | 15 |
| Third Class Bed | | |
| - | 10 | 7 |

The average range of fees charged by private facilities increases with the size of the facility. On average, private facilities charge between L.E. 5.63 and L.E. 6.19 for an outpatient visit. This increases to between L.E. 5.85 and L.E. 8.00 in small inpatient and to between L.E. 8.34 and L.E. 12.03 in medium inpatient. The average fee charged in a large inpatient facility varies between L.E. 30 and L.E. 90.

⁷ The large private inpatient facility in the sample did not report operating expenditures.

VI. Quality

This section examines a variety of quality measures. Forty seven percent of all institutions in the sample have training programs for physicians and 52% have similar programs for nurses. MOHP facilities are more likely to provide training programs for physicians than other facilities as 82% of MOHP facilities offer physician training programs. Seventy five percent of universities offer physician training programs, followed by 59% of HIO facilities, 50% of CCOs, 15% of Private and 11% of Others. All CCO facilities offer training programs for nurses, followed by 90% of MOHP facilities, 75% of universities, 56% of HIO facilities, 19% of Private facilities and 14% of Others. By region, 68% of institutions in rural Lower Egypt and 64% in urban Lower Egypt provide training programs for physicians. Sixty percent of institutions in rural Upper Egypt and 32% in urban Upper Egypt provide training programs, while only 35% of urban governorate facilities offer training programs for their physicians. The percentages are similar for nurses' training programs.

Two hundred three out of 537 institutions surveyed have an inpatient section of which almost 84% keep inpatient records. All HIOs and 3 out of 4 universities keep records. Eighty-eight percent of MOHP facilities, 83% of CCOs, 89% of Private and 69% of Others keep records. All urban areas have a similar percentage of institutions keeping inpatient records: 84% in urban governorates and 83% in both urban Upper and Lower Egypt. In rural areas 94% of institutions in Lower Egypt and 79% in Upper Egypt keep records.

In each institution the interviewee was asked about the most important technical problem(s) facing the institution. One hundred thirty-three institutions stated that they had no problems. However, for the remaining institutions the biggest problem was a shortage of medical equipment. Fifty-three percent of MOHP facilities, 50% of universities, 27% of HIOs, 34% of Others and 20% of private institutions had shortages of medical equipment. The next most important problem was that of having no subsidy. This was a problem for 75% of universities, 52% of Others, 33% of MOHP facilities, 20% of private institutions, 17% of CCOs and 6% of HIO facilities. The third most important technical problem was a shortage of physicians and laboratory technicians. Twenty-nine percent of MOHP facilities stated they had such a shortage, along with 25% of HIO facilities and 20% in both private and Other facilities. CCOs and universities did not have shortages in such personnel. Seventy-nine percent of institutions in the sample stated that non-functioning medical equipment was a serious technical problem: 27% of private institutions, 25% of universities, 23% of MOHP facilities, 22% of HIOs and 12% of Others.

The interviewee was then asked why in their opinion did patients prefer treatment in their institution over other institutions. The most frequent answer was low cost of treatment. Seventy-nine percent of MOHP and Other facilities said that patients prefer their institution because of the low cost of treatment. Sixty-seven percent of CCO, 62% of private, 61% of HIO facilities and 50% of universities also cited low costs as to why patients used their institution. The second reason was proximity to the patient's house. Fifty-seven percent of MOHP facilities, 42% of Others, 34% of private, 33% of CCOs and 28% of HIOs said that being near to the patient's house was the reason why patients preferred their institution for treatment. The third most popular answer was that the institution rendered good service. Sixty-seven percent of CCO facilities stated this reason for why patients preferred their institution for treatment as did 53% of private facilities, 47% of Others, 28% of MOHP and 25% of HIO facilities.

Perhaps the most telling quality measures are the observations of the interviewer. After each interview the interviewer answered several questions about the institution: the degree of cleanliness, personnel attitude and uniform, personnel manner when dealing with patients and the ease with which attendants dealt with various services. The interviewer rated the institution as either *very good*, *good*, *satisfactory* or *unsatisfactory*. He or she was also asked about the

average waiting time for a patient in the clinic and whether patients were always given information on how to deal with the institution.

Table 6.2 : Interviewer's Observations on Institution (Percentage)

| | Very Good | Good | Satisfactory | Unsatisfactory |
|---|------------------|-------------|---------------------|-----------------------|
| Degree of Cleanliness | 26.07 | 39.66 | 30.54 | 3.72 |
| Personnel Attitude & Personnel | 22.91 | 42.64 | 33.15 | 1.30 |
| How Personnel Behave/Deal With Patients | 28.49 | 43.58 | 27.00 | 0.93 |
| How Attendants Deal with Various Services | 26.26 | 43.39 | 28.31 | 2.05 |

With regard to the degree of cleanliness, 140 out of 537 institutions were rated as very good, 213 good, 164 satisfactory and 20 unsatisfactory. Thirteen institutions with unsatisfactory cleanliness were MOHP facilities and 3 were HIO. Eighteen percent, 39%, 37% and 6% of MOHP facilities had very good, good, satisfactory and unsatisfactory cleanliness. In contrast, private facilities scored much better. Fifty-one percent, 33% and 16% of private facilities were rated as very good, good and satisfactory in terms of cleanliness.

Table 6.3 : Interviewers' Perspectives on Degree of Cleanliness of the Institution

| | Very Good | Good | Satisfactory | Unsatisfactory | Total |
|--------------------|------------------|-------------|---------------------|-----------------------|--------------|
| MOHP | 18% | 39% | 37% | 6% | 100% |
| CCO | 50 | 50 | 0 | 0 | 100 |
| HIO | 13 | 50 | 33 | 5 | 100 |
| University | 50 | 25 | 25 | 0 | 100 |
| Private | 51 | 33 | 16 | 0 | 100 |
| Other | 27 | 40 | 31 | 3 | 100 |
| Total | 26 | 40 | 31 | 4 | 100 |
| Region | Very Good | Good | Satisfactory | Unsatisfactory | Total |
| Urban Governorates | 26 | 44 | 28 | 2 | 100 |
| Lower Rural | 20 | 34 | 35 | 11 | 100 |
| Lower Urban | 29 | 40 | 27 | 3 | 100 |
| Upper Rural | 11 | 33 | 49 | 7 | 100 |
| Upper Urban | 38 | 38 | 25 | 0 | 100 |
| Total | 26 | 40 | 31 | 4 | 100 |

Interviewers rated 123 institutions as very good in terms of personnel attitude and uniforms, 229 were good, 178 were satisfactory and 7 were unsatisfactory. Looking at the public-private performance, private facilities performed better than MOHP facilities. For example, 41% of private facilities were very good, but only 17% of MOHP facilities were rated at that level.

Table 6.4 : Interviewers' Perspectives on Personnel Attitude and Uniforms

| | <i>Very Good</i> | <i>Good</i> | <i>Satisfactory</i> | <i>Unsatisfactory</i> | <i>Total</i> |
|--------------------|------------------|-------------|---------------------|-----------------------|--------------|
| MOHP | 17% | 39% | 42% | 1% | 100% |
| CCO | 50 | 50 | 0 | 0 | 100 |
| HIO | 17 | 52 | 30 | 2 | 100 |
| University | 50 | 25 | 25 | 0 | 100 |
| Private | 41 | 38 | 19 | 1 | 100 |
| Other | 20 | 47 | 32 | 1 | 100 |
| Total | 23 | 43 | 33 | 1 | 100 |
| Region | <i>Very Good</i> | <i>Good</i> | <i>Satisfactory</i> | <i>Unsatisfactory</i> | <i>Total</i> |
| Urban Governorates | 20 | 51 | 28 | 1 | 100 |
| Lower Rural | 21 | 26 | 48 | 5 | 100 |
| Lower Urban | 26 | 40 | 34 | 0 | 100 |
| Upper Rural | 11 | 40 | 47 | 2 | 100 |
| Upper Urban | 35 | 41 | 24 | 0 | 100 |
| Total | 23 | 43 | 33 | 1 | 100 |

One hundred fifty-three institutions were rated as very good in relation to their behavior and dealings with patients, 234 were good, 145 were satisfactory and 5 were unsatisfactory. Only 19% of MOHP facilities were ranked as very good, but 49% of private facilities were very good. Eighty-eight percent of private facilities were either very good or good, but only 62% of MOHP facilities were in the same category.

Table 6.5 : Interviewers' Perspectives on how Personnel Behave or Deal with Patients

| | <i>Very Good</i> | <i>Good</i> | <i>Satisfactory</i> | <i>Unsatisfactory</i> | <i>Total</i> |
|---------------------------|------------------|-------------|---------------------|-----------------------|--------------|
| MOHP | 19% | 43% | 37% | 1% | 100% |
| CCO | 50 | 33 | 17 | 0 | 100 |
| HIO | 17 | 47 | 36 | 0 | 100 |
| University | 25 | 50 | 25 | 0 | 100 |
| Private | 49 | 39 | 10 | 2 | 100 |
| Other | 34 | 45 | 21 | 0 | 100 |
| Total | 28 | 44 | 27 | 1 | 100 |
| | <i>Very Good</i> | <i>Good</i> | <i>Satisfactory</i> | <i>Unsatisfactory</i> | <i>Total</i> |
| Urban Governorates | 25 | 50 | 25 | 0 | 100 |
| Lower Rural | 23 | 33 | 43 | 3 | 100 |
| Lower Urban | 29 | 45 | 25 | 1 | 100 |
| Upper Rural | 22 | 45 | 33 | 0 | 100 |
| Upper Urban | 45 | 35 | 18 | 2 | 100 |
| Total | 28 | 44 | 27 | 1 | 100 |

The ease with which attendants deal with various services was rated as very good in 141 institutions, good in 233, satisfactory in 152 and unsatisfactory in 11 institutions. Again private facilities outranked MOHP facilities. Forty-nine percent of private facilities were ranked very good in how attendants dealt with various tasks, 39% were good and 10% were satisfactory. In contrast only 19% of MOHP facilities were very good, 43% were good, 37% were satisfactory and 1% were unsatisfactory.

**Table 6.6 : Average Waiting Time for Patient in Institution
(only if there is an outpatient clinic)**

| <i>Institution</i> | <i>Average Waiting Time (minutes)</i> |
|---------------------------|--|
| MOHP | 21.68 |
| HIO | 18.33 |
| CCO | 19.88 |
| University | 38.33 |
| Private | 19.74 |
| Other | 19.91 |

Patients at HIO facilities waited 18 minutes, least time, while patients at CCOs, Private and Other facilities waited 20 minutes. In MOHP facilities patients waited on average for 22 minutes. The waiting time in universities was, 38 minutes, over twice as long as HIO facilities.

Table 6.7 : Interviewers' Perspectives on whether Patients are always Informed with Instructions of Dealing with Institution

| <i>Affiliation</i> | <i>Percentage</i> |
|---------------------------|--------------------------|
| MOHP | 69.77 |
| CCO | 83.33 |
| HIO | 75.00 |
| University | 75.00 |
| Private | 73.40 |
| Other | 72.73 |
| Total | 72.07 |
| Region | |
| Urban Governorates | 71.50 |
| Lower Rural | 66.25 |
| Lower Urban | 68.48 |
| Upper Rural | 78.18 |
| Upper Urban | 78.13 |
| Total | 72.07 |

According to interviewers, institutions did very well in terms of always providing patients with instructions on dealing with the institution. Interviewers felt that CCOs informed patients 83% of the time, universities and HIO facilities informed patients 75% of the time, Others and Private facilities 73%, and MOHP 70% of the time.

Table 6.8 : Interviewers' Perspectives on How Easily Attendants Move and Deal with Various Services in the Institutions

| | <i>Very Good</i> | <i>Good</i> | <i>Satisfactory</i> | <i>Unsatisfactory</i> | <i>Total</i> |
|--------------------|------------------|-------------|---------------------|-----------------------|--------------|
| MOHP | 19% | 45% | 32% | 4% | 100% |
| CCO | 33 | 50 | 17 | 0 | 100 |
| HIO | 16 | 52 | 31 | 2 | 100 |
| University | 25 | 50 | 25 | 0 | 100 |
| Private | 45 | 39 | 16 | 0 | 100 |
| Other | 29 | 40 | 30 | 1 | 100 |
| Total | 26 | 43 | 28 | 2 | 100 |
| | <i>Very Good</i> | <i>Good</i> | <i>Satisfactory</i> | <i>Unsatisfactory</i> | <i>Total</i> |
| Urban Governorates | 23 | 49 | 28 | 0 | 100 |
| Lower Rural | 23 | 36 | 38 | 4 | 100 |
| Lower Urban | 24 | 42 | 32 | 2 | 100 |
| Upper Rural | 24 | 45 | 27 | 4 | 100 |
| Upper Urban | 40 | 38 | 20 | 3 | 100 |
| Total | 26 | 43 | 28 | 2 | 100 |

In all of the quality indicators assessed by the interviewers private facilities performed better than MOHP facilities.

Appendix 1

The survey classified institutions according to the following 11 types:

1. Hospital
2. Health Center/Research
3. Health Group
4. Polyclinic/General Clinic
5. Health Office
6. School Health Unit
7. Rural/Urban Unit
8. Maternal and Child Health Center/Unit
9. Family Planning Center/Unit
10. Polyclinic inside Institution
11. Other

The administrative affiliations of the institutions are as follows:

1. Ministry of Health
2. Other Ministries
3. University
4. Educational Institutions and Hospitals
5. Cairo Curative Organization
6. General Organization of Health Insurance
7. Public Sector Company
8. Syndicate/Professional Group
9. Private Sector/Investment
10. Co-operative
11. Other

The 12 governorates used in the survey are:

Urban Governorates

1. Cairo
2. Alexandria
3. Port-Said
4. Suez

Lower Egypt

1. Dakahlia
2. Kalyubia
3. Gharbia
4. Behera

Upper Egypt

1. Giza
2. Beni-Suef
3. Assuit
9. Qena

Private Clinics

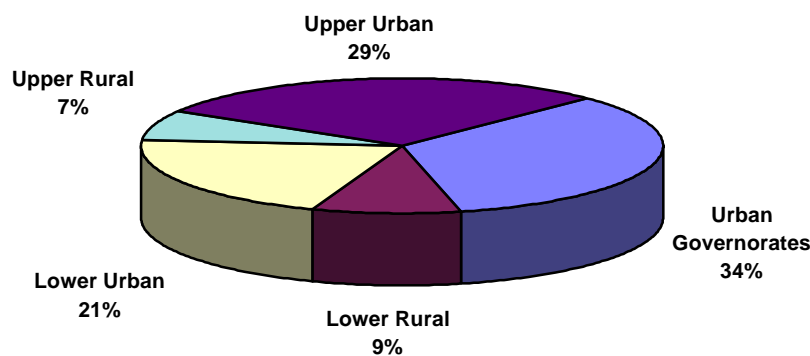
I. Introduction

The Provider Survey defines private clinics as single doctor practices. In some cases there may be other physicians and support staff employed by the owner of the clinic. A total of 915 health care providers in private clinics were surveyed, of which 802 were physicians and 113 were dentists. This report examines the characteristics and behavior of the physicians¹.

II. Geographic Distribution

The distribution of the sample of 802 physicians in private clinics is heavily biased towards urban areas: 34% are located in urban governorates, 29% in urban Upper Egypt and 21% in urban Lower Egypt. The rural areas account for 16% of the sample, with 9% in rural Lower Egypt and 7% in rural Upper Egypt.

Figure 2.1: Percentage Distribution of Sample by Region



III. Characteristics

This section examines the characteristics of physicians, the clinics they operate and the areas in which they specialize.

3.1 Physician Characteristics

Of the physicians sampled in private clinics 92% are male and 8% are female. Even amongst the 8% of female physicians, the majority is located in urban areas. The highest percentage of female physicians is found in urban governorates where 40% of physicians are female, followed by 34% in urban Upper Egypt, 19% in urban Lower Egypt, 5% in rural Lower Egypt and finally 2% in rural Upper Egypt. This has the potential implication that women in rural areas have limited access to female physicians in the private sector where it may be particularly uncomfortable for them to be seen by male physicians. The distribution of male physicians by region is identical to that of females.

¹ The analysis of dentists is presented in a separate report.

The average age of physicians in the sample is 43 years: 44 years for males and 41 years for females. In urban areas the average age of physicians is older than those in rural areas: 45 is the average age of all physicians in urban governorates, 44 in urban Upper and Lower Egypt, while the average age in rural areas is 39 in Upper and 37 in Lower Egypt. As physicians tend to be older in urban areas they also have more experience. On average physicians in urban governorates have 20 years of experience and 18 years in urban Upper and Lower Egypt. Physicians in rural Upper Egypt have 12 years of experience, while those in rural Lower Egypt have only 11 years. Table 3.11 shows frequency, average age and years of experience by region and gender. As expected females have less years of experience than males: 16 years versus 18 years. On average, physicians have been practicing for 18 years. Unsurprisingly, physicians working in rural areas have been practicing for a shorter time than their urban-based peers as they tend to be younger than physicians in urban areas: they report a mean of 11 years in practice compared to almost 19 years for urban physicians. 28 physicians have been practicing for 40 years or longer. Only 1 physician began to practice in the same year as the survey.

Table 3.11: Frequency, Percentage Distribution, Average Age and Average Years of Experience by Region and Gender

| | <i>Frequency (Number)</i> | <i>Percent</i> | <i>Age (Years)</i> | <i>Years of Experience (Years)</i> |
|--------------------|-------------------------------|----------------|------------------------|--|
| Male | | | | |
| Urban Governorates | 248 | 31 | 46 | 20 |
| Lower Rural | 69 | 9 | 37 | 11 |
| Lower Urban | 156 | 19 | 45 | 18 |
| Upper Rural | 58 | 7 | 39 | 12 |
| Upper Urban | 209 | 26 | 44 | 18 |
| Total | 740 | 92 | 44 | 18 |
| Female | | | | |
| Urban Governorates | 25 | 3 | 44 | 19 |
| Lower Rural | 3 | 0 | 30 | 5 |
| Lower Urban | 12 | 1 | 41 | 15 |
| Upper Rural | 1 | 0 | 44 | 14 |
| Upper Urban | 21 | 3 | 39 | 14 |
| Total | 62 | 8 | 41 | 16 |
| Total | | | | |
| Urban Governorates | 273 | 34 | 45 | 20 |
| Lower Rural | 72 | 9 | 37 | 11 |
| Lower Urban | 168 | 21 | 44 | 18 |
| Upper Rural | 59 | 7 | 39 | 12 |
| Upper Urban | 230 | 29 | 44 | 18 |
| Total | 802 | 100 | 43 | 18 |

There is a high degree of specialization amongst the sample as only 14% of physicians in private clinics have a Bachelor in Medicine as their highest degree. Thirty-three percent of physicians have a Diploma in Medicine as their highest degree, 34% have a Master in Medicine, 2% have a Fellowship and 17% hold a Ph.D. in Medicine. Table 3.12 presents the percentage distribution of degrees earned by gender and shows that female physicians tend to have fewer qualifications in terms of degrees earned than male physicians.

Table 3.12: Distribution of Degrees Earned by Gender

| | Male Percentage | Female Percentage |
|----------------------|----------------------------|------------------------------|
| Bachelor in Medicine | 100 | 100 |
| Diploma in Medicine | 42 | 60 |
| Master in Medicine | 47 | 26 |
| Fellowship | 4 | 0 |
| Ph.D. in Medicine | 17 | 14 |

Sixty percent of female physicians have a Diploma in medicine in comparison with 42% of males. However, 47% of males have a Masters, but only 26% of females have an equivalent qualification. No female physician has a fellowship, but 4% of male physicians have fellowships. Seventeen percent of male and 14% of female physicians have a Ph.D. The physicians employed in rural areas have a lower level of education than their peers in urban areas; only 64% had earned more than a Bachelor in Medicine in comparison with 90% of physicians employed in urban areas. Universities in Egypt granted all Bachelor degrees. Only 2 of the physicians working in rural areas had earned their terminal degree from an institution outside Egypt in comparison with 31 physicians in urban areas. The highest degrees earned by physicians are presented in Table 3.13. The location where the degree was conferred is designated as either in Egypt or elsewhere.

Table 3.13: Physician Education - Degrees and Where Earned

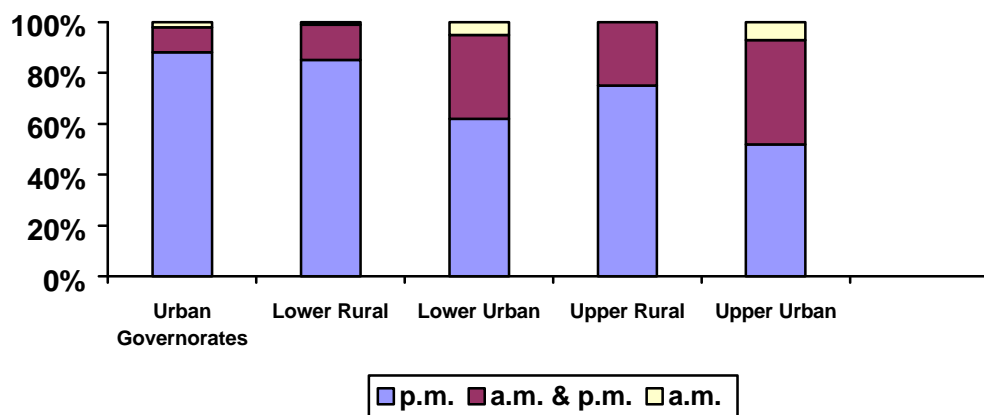
| | Total | | Urban | | Rural | |
|------------------------------|--------------|----------------|--------------|----------------|--------------|----------------|
| Highest Degree Earned | Egypt | Outside | Egypt | Outside | Egypt | Outside |
| Bachelor in Medicine | 113 | 0 | 66 | 0 | 47 | 0 |
| Diploma in Medicine | 261 | 7 | 209 | 7 | 52 | 0 |
| Master in Medicine | 267 | 2 | 240 | 1 | 27 | 1 |
| Fellowship | 6 | 11 | 6 | 11 | 0 | 0 |
| Ph.D. in Medicine | 122 | 13 | 119 | 12 | 3 | 1 |
| Total | 769 | 33 | 640 | 31 | 129 | 2 |

3.2 Clinic Characteristics

From the sample of 802 clinics, 155 reported having between 1 and 9 beds in the clinic. These beds were used mainly for examination purposes, indicating that private clinics provide a negligible amount of total inpatient care.

Thirty of the clinics are open only in the morning, 569 in the evening only and 203 both morning and evening. No private clinic is open 24 hours a day. Urban clinics in Lower and Upper Egypt provide the greatest flexibility for patients in terms of opening times followed by urban governorate clinics, with rural clinics providing the least choice in opening times. Fifty six percent of urban area clinics are open in the evening only, 6% in the morning only, but 38% are open both morning and evening. For urban governorate clinics the percentages are as follows: 88% are open in the evening only, 2% in the morning only and 10% are open both morning and evening. In contrast, 80% of rural clinics are opened in the evening only, 1% in the morning only and 19% are open morning and evening. Figure 3.21 shows the distribution of clinics by opening times.

Figure 3.21: Percentage Distribution of Clinics by Opening Times



There are 1445 staff jobs² in the sampled private clinics: 902 full-time and 543 part-time. Table 3.21 shows the total number of staff jobs by region. 43 clinics or 5% of the sample are single providers; that is, there are no workers other than the physician employed in the clinic. For the remaining 95% of clinics, there are on average 1.9 staff employed per clinic. 61% of staff jobs are in non-medical fields, with cleaners and secretaries or clerks making up the largest proportion of non-medical workers. Nurses account for 49% of medical staff jobs, followed by anesthesiologists with 23% and assistant physicians with 15% of medical staff jobs. Urban based clinics are marginally more likely to have staff than clinics in rural areas. In the sample, all of these jobs tend to be concentrated in urban areas or urban governorates. For example, 39% of nurses are located in urban governorates, 17% in urban Lower Egypt, and 30% in urban Upper Egypt versus 5% in rural Lower Egypt and 9% in rural Upper Egypt. Similarly, 29% of anesthesiologists are located in urban governorates, 33% in urban Lower Egypt, and 22% in urban Upper Egypt, whereas 10% of anesthesiologists are in rural Lower Egypt and 6% in rural Upper Egypt.

Table 3.21: Total Number of Staff by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|---------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Cleaners | 141 | 33 | 106 | 35 | 179 | 494 |
| Secretaries | 175 | 20 | 65 | 5 | 75 | 340 |
| Nurses | 108 | 14 | 48 | 25 | 82 | 277 |
| Anesthesiologists | 37 | 13 | 42 | 8 | 29 | 129 |
| Asst Physicians | 29 | 9 | 26 | 5 | 15 | 84 |
| Guards | 23 | 1 | 4 | 0 | 2 | 30 |
| Physical Therapists | 20 | 1 | 1 | 1 | 4 | 27 |
| Lab Technicians | 20 | 0 | 0 | 2 | 1 | 23 |
| Radiologists | 19 | 0 | 1 | 0 | 1 | 21 |
| Others | 20 | 0 | 0 | 0 | 0 | 20 |
| Total | 592 | 91 | 293 | 81 | 388 | 1445 |

² Staff jobs are any jobs, both medical and non-medical, other than the owner of the clinic.

3.3 Areas of Specialization

Approximately 88% of the sample reported having some area of specialization other than general practice and an equal number of physicians reported multiple areas of specialization. On average each physician has 1.12 areas of specialization. It must be remembered that these are the areas of specialization reported by physicians and need not imply that they have an advanced degree in that area. The most common area of specialization reported is surgery, accounting for over 18% of all physicians sampled. This is followed by obstetrics and gynecology with 15% and internal medicine with 14% of physicians declaring that as an area of specialization. The least common areas of specialization are neurology, with approximately 1% of physicians reporting it as an area of specialization, psychiatry with 2% and fever with 3%. The percentage distribution of the top and bottom 5 areas of specialization is presented in Table 3.31.

Table 3.31: Percentage Distribution of Top and Bottom 5 Areas of Specialization

| Specialization | Percentage |
|---------------------------------|-------------------|
| General Practice | 12 |
| Specialists | 88 |
| Top 5 Specializations | |
| Surgery | 16 |
| Ob/Gyn | 14 |
| Internal Medicine | 14 |
| General Practice | 12 |
| Pediatrics | 10 |
| Bottom 5 Specializations | |
| Chest | 4 |
| Orthopedics | 3 |
| Fever | 3 |
| Psychiatry | 2 |
| Neurology | 1 |

The areas of specialization by gender are presented in Table 3.32 and by region in Table 3.33. Female physicians are more likely to specialize in obstetrics and gynecology than men, with 45% of women in the field in comparison with 13% of men. The other main areas where female physicians specialize are pediatrics (18%), general practice (13%) and dermatology (10%). However, there were no female cardiologists, ENT specialists, orthopedists, chest specialists or surgeons in the sample. On the other hand, male physicians are more likely to specialize in surgery with 19% in that area in comparison with approximately 3% of female physicians. The other top areas of specialization for male physicians are internal medicine (16%), general practice (14%) and obstetrics and gynecology (13%), the latter two also being popular with female physicians.

Table 3.32: Areas of Specialization by Gender

| | Male | Female | Total | Percentage of Total |
|-------------------|-------------|---------------|--------------|----------------------------|
| Surgeon | 143 | 2 | 145 | 16.1 |
| Ob/Gyn | 99 | 28 | 127 | 14.1 |
| Internal Medicine | 119 | 4 | 123 | 13.7 |
| General Practice | 102 | 8 | 110 | 12.2 |
| Pediatrics | 79 | 11 | 90 | 10.0 |
| Cardiology | 41 | 0 | 41 | 4.6 |
| ENT | 41 | 0 | 41 | 4.6 |
| Ophthalmology | 35 | 5 | 40 | 4.4 |
| Dermatology | 29 | 6 | 35 | 3.9 |
| Other | 30 | 4 | 34 | 3.8 |
| Chest | 33 | 0 | 33 | 3.7 |
| Orthopedics | 28 | 0 | 28 | 3.1 |
| Fever | 27 | 0 | 27 | 3.0 |
| Psychiatry | 16 | 0 | 16 | 1.8 |
| Neurology | 9 | 1 | 10 | 1.1 |
| Total | 831 | 69 | 900 | 100% |

The majority of areas of specialization are concentrated in urban governorates (37% of all specialties) and in the urban areas of Egypt (27% in Upper Egypt and 21% in Lower Egypt). For some specialties there is no specialist in rural regions in the sample, for example, there is neither cardiologist, ophthalmologist nor orthopedist in rural Lower Egypt and in rural Upper Egypt there is no neurologist, dermatologist or psychiatrist. In contrast, the urban governorates and urban regions have access to all areas of specialization. Even for the most common areas of specialization the regional maldistribution in the sample is very apparent. For example, 27% of all surgeons are in urban governorates, 57% are in urban areas of Lower and Upper Egypt, but only 17% are in rural areas of Lower and Upper Egypt. Similarly 38% of obstetricians and gynecologists are in urban governorates, 45% in urban areas and 18% in rural areas of Lower and Upper Egypt. The least popular specialty, neurology, with 31% in urban governorates, 64% in urban and 6% in rural areas of Lower and Upper Egypt, also provides limited access in rural areas. Psychiatrists are regionally distributed as follows: 20% in urban governorates, 70% in urban areas of Lower and Upper Egypt and 10% in rural areas of Lower and Upper Egypt. In contrast, general practice is the only specialty where there are more physicians in Lower Egypt than in urban governorates or Upper Egypt: 41% in rural areas and 39% in urban areas of Lower and Upper Egypt and 19% in urban governorates.

Table 3.33: Areas of Specialization by Region

| | Urban Governorates | | Lower Rural | | Lower Urban | | Upper Rural | | Upper Urban | | Total |
|-------------------|---------------------------|-------------|--------------------|------------|--------------------|-------------|--------------------|------------|--------------------|-------------|--------------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number |
| Surgery | 39 | 26.9 | 7 | 4.8 | 30 | 20.7 | 17 | 11.7 | 52 | 40.9 | 145 |
| Ob/Gyn | 48 | 37.8 | 16 | 12.6 | 28 | 22.0 | 6 | 4.7 | 29 | 23.6 | 127 |
| Internal Medicine | 56 | 45.5 | 9 | 7.3 | 27 | 22.0 | 4 | 3.3 | 27 | 19.1 | 123 |
| General Practice | 21 | 19.1 | 28 | 25.5 | 23 | 20.9 | 18 | 16.4 | 20 | 18.2 | 110 |
| Pediatrics | 37 | 41.1 | 5 | 5.6 | 23 | 25.6 | 7 | 7.8 | 18 | 20.0 | 90 |
| Cardiology | 17 | 41.5 | 0 | 0.0 | 9 | 22.0 | 1 | 2.4 | 14 | 34.1 | 41 |
| ENT | 16 | 39.0 | 1 | 2.4 | 8 | 19.5 | 1 | 2.4 | 15 | 36.6 | 41 |
| Ophthalmology | 18 | 45.0 | 0 | 0.0 | 6 | 15.0 | 2 | 5.0 | 14 | 35.0 | 40 |
| Dermatology | 12 | 34.3 | 3 | 8.6 | 3 | 8.6 | 0 | 0.0 | 17 | 48.6 | 35 |
| Other | 14 | 41.2 | 1 | 2.9 | 2 | 5.9 | 2 | 5.9 | 15 | 44.1 | 34 |
| Chest | 9 | 27.3 | 4 | 12.1 | 7 | 21.2 | 1 | 3.0 | 12 | 36.4 | 33 |
| Orthopedics | 8 | 28.6 | 0 | 0.0 | 9 | 32.1 | 1 | 3.6 | 10 | 35.7 | 28 |
| Fever | 13 | 48.1 | 2 | 7.4 | 3 | 11.1 | 4 | 14.8 | 5 | 18.5 | 27 |
| Psychiatry | 5 | 31.3 | 1 | 6.3 | 1 | 6.3 | 0 | 0.0 | 9 | 56.3 | 16 |
| Neurology | 2 | 20.0 | 1 | 10.0 | 4 | 40.0 | 0 | 0.0 | 3 | 30.0 | 10 |
| Total | 370 | 41.1 | 84 | 9.3 | 214 | 23.8 | 68 | 7.6 | 277 | 30.8 | 900 |

The most popular multiple areas of specialization are cardiology and internal medicine (22 physicians), internal medicine and fever (8) and cardiology and chest (5). 4 physicians with multiple specialties have 3 areas of specialization: one with internal medicine, cardiology and chest specialties; another with internal medicine, pediatrics and other; another with internal medicine, fever and other; and finally one with general practice, pediatrics and obstetrics and gynecology.

IV. Services Offered

Table 4.1 shows the services offered by physicians in private clinics by region. The total column shows the percentage of all clinics offering particular services. The clinical services offered can be separated into preventive, diagnostic, and curative services. Approximately 17% offer preventive services such as routine check-ups and 4% offer immunizations and well baby care. Fewer clinics offer such services in rural areas. Diagnostic services such as radiology, ultrasound and laboratory tests are offered in approximately 5% of the clinics and again are less common in the rural areas. The most common curative services are patient examinations, surgeries, first aid and injections. Surgeries are offered at nearly 16% of the urban clinics and at 25% of the total sample. First aid was offered at nearly a quarter of clinics and patient examinations are almost universally offered.

Table 4.1: Percentage of Private Clinics Offering Different Services by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Lower Upper</i> | <i>Upper Rural</i> | <i>Percentage of All Clinics Providing Service</i> |
|----------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--|
| Patient Examinations | 98.9% | 100% | 100% | 100% | 99% | 99.5% |
| First Aid | 18.7 | 50.0 | 30.4 | 44.1 | 23.5 | 27.2 |
| Surgeries | 14.7 | 27.8 | 31.0 | 28.8 | 28.3 | 24.2 |
| Ante-Natal Care | 17.2 | 27.8 | 17.9 | 11.9 | 10.0 | 15.8 |
| Routine Check-up | 14.3 | 15.3 | 17.9 | 11.9 | 15.2 | 15.2 |
| Other | 7.7 | 13.9 | 16.1 | 1.7 | 10.4 | 10.3 |
| Giving Injections | 3.7 | 15.3 | 14.9 | 13.6 | 10.9 | 9.9 |
| Delivery | 7.0 | 20.8 | 8.9 | 11.9 | 9.6 | 9.7 |
| Lab Tests | 5.9 | 8.3 | 6.5 | 8.5 | 7.4 | 6.9 |
| Ultrasound | 5.1 | 6.9 | 6.5 | 1.7 | 5.7 | 5.5 |
| Well Baby Care | 5.9 | 4.2 | 6.5 | 3.4 | 3.5 | 5.0 |
| Immunization | 5.1 | 5.6 | 6.5 | 1.7 | 2.6 | 4.5 |
| Radiology | 2.2 | 1.4 | 6.0 | 0.0 | 4.3 | 3.4 |

Table 4.2 shows the average number of patients seen per month in private clinics as reported by physicians by treatment and region. The denominator in each case is the number of physicians who provide that particular service. For example, physicians in urban governorates report performing an average of 70 patient examinations and 21 routine check-ups per month. However, the number of patient examinations performed per month in Upper Egypt is significantly higher than other regions: 90 patient examination in rural areas of Upper Egypt and 85 in urban areas of Upper Egypt. Overall, physicians report seeing an average of 76 patients per month for a patient examination and 16 for a routine check-up. According to physicians, patient examinations, injections and ultrasound are the most common reasons patients attend a physician at his or her private clinics. Surprisingly, well baby care and ultrasound are some of the least common services offered by physicians, even though they are amongst the most regularly demanded services sought out by patients seeking treatment. The least common treatments across all regions are delivery, surgeries, antenatal care, lab tests, and first aid.

Table 4.2: Average Number of Patients Seen per Month in Private Clinic by Treatment and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|----------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Patient Examinations | 70 | 62 | 72 | 90 | 85 | 76 |
| Giving Injections | 37 | 68 | 49 | 27 | 61 | 52 |
| Ultrasound | 23 | 33 | 68 | 200 | 31 | 40 |
| Well Baby Care | 17 | 23 | 22 | 8 | 51 | 25 |
| Radiology | 22 | 10 | 21 | 0 | 21 | 21 |
| Immunization | 27 | 9 | 11 | 15 | 9 | 17 |
| Lab Tests | 18 | 7 | 31 | 23 | 7 | 17 |
| Routine Check-up | 21 | 11 | 16 | 7 | 12 | 16 |
| Ante-Natal Care | 12 | 12 | 19 | 10 | 16 | 14 |
| First Aid | 19 | 10 | 6 | 8 | 8 | 10 |
| Surgeries | 5 | 3 | 6 | 7 | 5 | 5 |
| Delivery | 2 | 3 | 8 | 2 | 3 | 4 |

V. Multiple Employment

Eight hundred and two physicians in private clinics were interviewed for the Private Clinic survey. Eleven percent of physicians work only in the private clinic and 89% have multiple jobs. Seventy-three percent of physicians have 2 jobs, that is, they have another job outside of their private clinic, 14% have 3 jobs and 2% have 4 jobs. This implies that 1,702 is the total number of jobs for the 802 physicians surveyed, 900 of these being extra jobs, yielding an average of 2 jobs per physician. Table 5.1 shows the number of jobs by specialty and job and Figure 5.1 shows the physician distribution by number of jobs.

Urban-based physicians are more likely to work only in the private clinic than those based in rural areas as 12% of urban based physicians work only in their private clinic in comparison with only 3% of physicians located in rural areas. Rural based physicians are more likely to have a second job as 85% of all physicians working in rural areas have a second job in comparison with 71% of urban-based physicians. However, there is not much difference between urban and rural physicians in the likelihood of having a third or fourth job. Fifteen percent of urban and urban governorate physicians and 11% of rural physicians have a third job, and 2% of urban and urban governorate physicians and 1% of rural physicians have a fourth job.

Figure 5.1: Physician Distribution by Number of Jobs

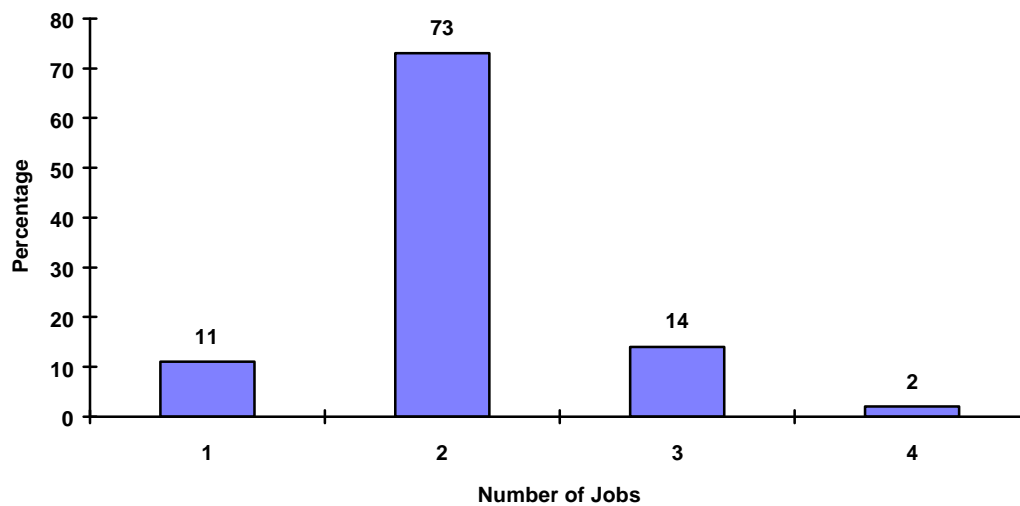


Table 5.1: Multiple Physician Job-Holding for Different Specialties

| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Total</i> | <i>Average Number of Jobs per Physician</i> |
|-------------------|-----------------------|-------------------|------------------|-------------------|--------------|---|
| Surgery | 140 | 131 | 28 | 4 | 303 | 2.16 |
| Ob/Gyn | 125 | 113 | 18 | 1 | 257 | 2.06 |
| General Practice | 103 | 87 | 3 | - | 193 | 1.87 |
| Internal Medicine | 89 | 77 | 13 | - | 179 | 2.01 |
| Pediatrics | 85 | 76 | 16 | - | 177 | 2.08 |
| ENT | 40 | 37 | 7 | 5 | 89 | 2.23 |
| Cardiology | 39 | 32 | 11 | 4 | 86 | 2.21 |
| Dermatology | 35 | 33 | 10 | - | 78 | 2.23 |
| Ophthalmology | 39 | 30 | 2 | - | 71 | 1.82 |
| Orthopedics | 28 | 27 | 8 | 1 | 64 | 2.29 |
| Chest | 29 | 27 | 5 | 1 | 62 | 2.14 |
| Psychiatry | 15 | 15 | 4 | - | 34 | 2.27 |
| Other | 17 | 15 | 1 | 1 | 34 | 2.00 |
| Fever | 12 | 12 | 2 | - | 26 | 2.17 |
| Neurology | 6 | 5 | 1 | - | 12 | 2.00 |
| Total | 802 | 717 | 129 | 17 | 1665 | 2.08 |

The likelihood of having multiple employment does not appear to be linked with the area of specialization. With the exception of ophthalmology between 83% to 100% of all physicians with declared areas of specialization have a second job. Seventy-seven percent of ophthalmologists have a second job, which most likely reflects the type of patient care required in that area.

The percentage distribution by affiliation of second, third and fourth jobs are given in Table 5.2. Overall, MOHP facilities employ 53% of physicians with multiple jobs, followed by universities with 14%, Others with 12%, HIOs with 11%, private with 9% and CCOs with 1%. Government and public agencies are the main employers of private clinic physicians with multiple jobs, with the private sector providing a very small proportion of multiple jobs. Although MOHP is the main employer of physicians with second jobs, private facilities employ 34% of those with third jobs and 47% of those with fourth jobs.

Table 5.2: Percentage Distribution of Other Jobs by Affiliation

| | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Percentage of Total Other Jobs by Affiliation</i> |
|--|-------------------|------------------|-------------------|--|
| MOHP | 61 | 9 | 2 | 53 |
| CCO | 1 | 3 | 0 | 1 |
| HIO | 8 | 27 | 23 | 11 |
| University | 15 | 9 | 12 | 14 |
| Private | 4 | 34 | 47 | 9 |
| Other | 11 | 18 | 6 | 12 |
| Percentage of Other Jobs that are nth jobs | 83 | 15 | 2 | 100 |

Table 5.3 shows that 83% of multiple jobs held by physicians are in urban areas: 33% in urban governorates and 19% and 31% in urban Lower and Upper Egypt. Nine percent of multiple jobs are in rural Lower Egypt and 7% in rural Upper Egypt. There was no public sector, CCO, co-operative, syndicate/professional group or other extra jobs in rural Upper Egypt. All but 3 of university jobs were in urban areas.

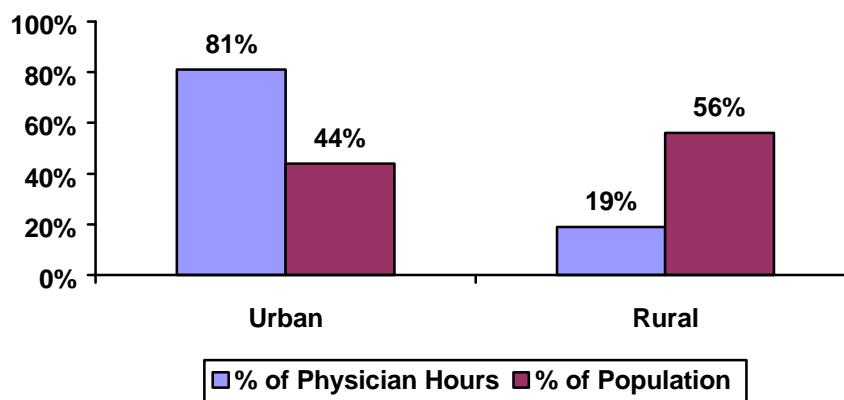
Table 5.3: Percentage Distribution of Other Jobs by Region

| | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Percentage of Total Other Jobs by Region</i> |
|--|-------------------|------------------|-------------------|---|
| Urban Governorates | 27 | 5 | 1 | 33 |
| Lower Rural | 8 | 1 | 0 | 9 |
| Lower Urban | 17 | 2 | 0 | 19 |
| Upper Rural | 7 | 1 | 0 | 7 |
| Upper Urban | 25 | 5 | 1 | 31 |
| Percentage of Other Jobs that are nth jobs | 83 | 15 | 2 | 100 |

VI. Work Time and Patients Attended

The physicians in the sample work a total of 40,458 hours per week in all their jobs or an average of 9.2 hours per day. Thirty percent of total physician working hours are spent in urban governorates, followed by 29% and 22% in urban Upper and Lower Egypt, respectively. Physicians spend 11% of total working hours in rural Upper Egypt and 8% in rural Lower Egypt. However, 56% of the Egyptian population³ live in rural areas, suggesting that there are access problems to physicians as individuals located in rural areas are getting only 19% of total physician time. On the other hand, urban residents, accounting for 44% of the population, are getting 81% of total physician working hours.

Figure 6.1: Distribution of Physician Hours and Population by Region



Surgeons, general practitioners, and obstetricians and gynecologists work more hours per week than any other specialty. To see how physicians' time in the sample is spent, a comparison is made in Table 6.1 between the hours-worked in urban governorates and urban areas and time spent in rural areas. On average, hours worked in rural regions is only 25% of hours worked in urban regions. Twenty percent of the total hours worked by surgeons, and obstetricians and gynecologists are spent in rural areas, while 80% are spent in urban areas. This contrasts with general practitioners in rural areas of Lower and Upper Egypt as they work approximately 90% of the hours worked by urban-based general practitioners. At the lower end of the scale, there are no neurologists in rural areas in the sample and the total hours worked by cardiologists in rural

³ Fifty-six percent of the total population of Egypt lives in rural areas. We assume that the same ratio holds in the governorates of Upper and Lower Egypt sampled.

regions is approximately 3% of hours worked by urban-based cardiologists. In summary, rural residents have limited access to all areas of specialization, except general practice.

Table 6.1: Total Hours Worked by Area of Specialization and Region and Comparison of Hours Worked in Rural Regions with Urban Regions⁴

| | <i>Urban Governorates & Urban Areas (hours)</i> | <i>Rural Areas (hours)</i> | <i>Percentage of Hours Worked in Rural Regions to Urban Regions (Percentage)</i> |
|-------------------|---|----------------------------|--|
| Surgery | 6089 | 1401 | 23.01 |
| Ob/Gyn | 4826 | 1286 | 26.65 |
| General Practice | 2862 | 2570 | 89.80 |
| Internal Medicine | 3689 | 740 | 20.06 |
| Pediatrics | 3802 | 603 | 15.86 |
| ENT | 1775 | 124 | 6.99 |
| Cardiology | 1822 | 54 | 2.96 |
| Dermatology | 1462 | 174 | 11.90 |
| Ophthalmology | 1319 | 369 | 27.98 |
| Orthopedics | 1374 | 62 | 4.51 |
| Chest | 1167 | 342 | 29.31 |
| Psychiatry | 723 | 72 | 9.96 |
| Other | 751 | 38 | 5.06 |
| Fever | 549 | 138 | 25.14 |
| Neurology | 275 | 0 | 0.00 |
| Total | 32485 | 7973 | 24.54 |

Approximately 43% of the total hours worked are in the private sector, which includes hours worked in the physician's private clinic and any other jobs he or she has in the private sector. This is followed closely by 36% in the Ministry of Health and Population. Universities and HIO account for 7% and 6% of total working hours, with CCO facilities accounting for 0.3% of overall physicians hours.

The total number of cases attended to by physicians in all jobs is 86,615 per week. Physicians in private clinics see 19% of cases although they account for 42% of total hours worked. In their capacity as employees of the MOHP, they attended to 49% of total cases per week. Those working with the HIO attended to 14% of total cases, but only 6% of hours worked. Therefore, the distribution of hours worked and cases attended by affiliation are not uniformly distributed. This suggests that physicians tend to see fewer patients per week in their private clinic, than when they are working for another affiliation, such as the MOHP. The number of patients attended to in rural regions is approximately a quarter of those seen in urban regions. This is in line with hours spent in rural regions being approximately a quarter of those spent in urban regions. However, over half the population in Upper and Lower Egypt is living in rural areas.

Table 6.2 presents the average number of hours worked per week by area of specialization and average total hours worked per week and per day by area of specialization. On average, physicians work 9.2 hours per day and 50 hours per week. Fever specialists, surgeons and psychiatrists have the longest working week, working on average 57, 54 and 53 hours per week, respectively, while ophthalmologists work on average 43 hours per week and neurologist and

⁴ The results in this table are driven by the distribution of physicians across urban and rural regions and therefore may not be representative at the level of specialization.

those with other specialties work 46 hours per week. Table 6.3 presents average hours worked per week by job for the various affiliations and regions

Table 6.2: Average Hours Worked per Day and per Week by Specialty

| <i>Specialty</i> | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Hours per Day</i> | <i>Hours per Week</i> |
|-------------------|-----------------------|-------------------|------------------|-------------------|----------------------|-----------------------|
| Fever | 24.5 | 31.7 | 6.5 | - | 10.3 | 57.3 |
| Surgeon | 20.4 | 33.2 | 9.6 | 7 | 9.5 | 53.5 |
| Psychiatry | 26.6 | 23.6 | 10.5 | - | 10.4 | 53 |
| General Practice | 22.1 | 35.8 | 13.3 | - | 9.3 | 52.7 |
| Chest | 21.4 | 31.4 | 6.8 | 6 | 9.3 | 52 |
| Pediatrics | 22.2 | 30.1 | 14.3 | - | 9.2 | 51.8 |
| Orthopedics | 16.3 | 32.0 | 12.5 | 15 | 10 | 51.3 |
| Internal Medicine | 21.2 | 31.1 | 11.6 | - | 9.2 | 49.8 |
| Ob/Gyn | 19.9 | 30.6 | 9.2 | 6 | 9.1 | 48.9 |
| Cardiology | 20.0 | 30.6 | 7.1 | 9.5 | 9.5 | 48.1 |
| ENT | 18.8 | 28.1 | 11.3 | 5.4 | 9.4 | 47.5 |
| Dermatology | 19.3 | 25.2 | 13.1 | - | 8.9 | 46.7 |
| Other | 18.0 | 31.8 | 0.0 | 6 | 8.6 | 46.4 |
| Neurology | 17.2 | 32.4 | 10.0 | - | 8.7 | 45.8 |
| Ophthalmology | 20.5 | 29.2 | 5.0 | - | 8.2 | 43.3 |
| Total | 21 | 31 | 10 | 7 | 9.3 | 50.4 |

Table 6.3: Average Hours Worked per Week by Job and Region

| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
|--------------------|-----------------------|-------------------|------------------|-------------------|
| Urban Governorates | 18 | 29 | 12 | 8 |
| Lower Rural | 25 | 35 | 15 | 12 |
| Lower Urban | 22 | 32 | 9 | 15 |
| Upper Rural | 21 | 35 | 12 | - |
| Upper Urban | 22 | 30 | 9 | 5 |
| Total | 21 | 31 | 10 | 7 |
| MOHP | - | 33 | 17 | 4 |
| CCO | - | 22 | 6 | - |
| HIO | - | 36 | 7 | 10 |
| University | - | 25 | 13 | 6 |
| Private | - | 13 | 12 | 7 |
| Other | - | 34 | 9 | 12 |
| Total | - | 31 | 10 | 7 |

For those physicians who only worked in the private clinic (11% of the sample), the average number of hours worked per week was 23. Although the total hours worked increased with the addition of a second job, the hours worked in the private clinic decreased: those who reported 2 jobs (73%) worked 21 hours in the private clinic. Time spent in the private clinic continued to decrease as the number of jobs outside the private clinic increased: those with 3 jobs (14% of the sample) reported working 18 hours per week while those with 4 jobs (2%) worked 14 hours per week on average in the private clinic. The distribution of hours worked per week by number of jobs is given in Table 6.4.

Table 6.4: Average Number of Hours Worked per Week by Job

| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
|----------------|-----------------------|-------------------|------------------|-------------------|
| Private Clinic | 23 | - | - | - |
| Two Jobs | 21 | 32 | - | - |
| Three Jobs | 18 | 27 | 11 | - |
| Four Jobs | 14 | 24 | 9 | 7 |

Physicians with multiple employment spent the greatest proportion of their working week in the second job, indicating that physicians consider this their primary source of employment. The government and public sector are the main employers of physicians with second jobs, employing 70% of physicians with second jobs. Physicians employed by the MOHP are required to work from 8 a.m. to 2 p.m., 6 days per week, after which they may operate their own clinics. However, there is enough anecdotal evidence to state that physicians do not actually work 6 hours per day for the MOHP, either by not turning up or by carrying out private clinics during MOHP time. This is reflected in the calculated hours worked per week in the second job. Physicians with only 2 jobs report working on average 32 hours per week in their second job. This figure drops to 27 hours per week if they have 3 jobs and to 24 hours per week if they have 4 jobs.

There are two important results here. First, the number of hours worked in the private clinic falls as the number of jobs a physician has increases, indicating that the physician substitutes hours away from the private clinic to other employment. Econometric analysis of the data also found that an increase in hours spent in the private clinic reduces the number of hours spent in the government job. Second, as the number of jobs increases, the amount of time spent in the second job, or government job, decreases. This potentially reduces the access of low-income people to medical care, as they cannot afford to seek care in the private sector. This has important policy implications, as multiple employment is not increasing the access of the population to medical care. Therefore, it may be necessary for the government to force physicians to choose between the private and or public sector employment by not allowing physicians to have multiple employment. In this case it would be necessary for the government to remunerate physicians such that they have an incentive to choose government or public sector employment.

Physicians work on average 4 hours per day in their private clinic. They work 5 days per week to give an average working week of 21 hours. In contrast, physicians work 6 hours per day, 6 days per week in the second job to give an average working week of 31 hours. Table 6.5 shows the corresponding measures for physicians with 3 and 4 jobs.

Table 6.5: Summary of Hours and Days Worked by Job

| | <i>Average Hours per Day</i> | <i>Average Days per Week</i> | <i>Average Hours Worked per Week</i> |
|----------------|------------------------------|------------------------------|--------------------------------------|
| Private Clinic | 3.76 | 5.37 | 20.66 |
| Second Job | 5.60 | 5.53 | 31.26 |
| Third Job | 2.79 | 3.62 | 10.49 |
| Fourth Job | 3 | 2.71 | 7.41 |

The distribution by region is approximately uniform. Table 6.6 shows the average number of hours per day and average number of days per week worked by region and job, respectively.

Table 6.6: Average Number of Hours per Day and Days per Week Worked by Region and Job

| <i>Average Number of Hours per Day Worked by Region and Job</i> | | | | | |
|---|-----------------------|-------------------|------------------|-------------------|--------------|
| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Total</i> |
| Urban Governorates | 3.28 | 5.48 | 3 | 4.17 | 8.5 |
| Lower Rural | 4.28 | 6.29 | 3.22 | 2 | 10.8 |
| Lower Urban | 4.08 | 5.61 | 2.24 | 3 | 9.3 |
| Upper Rural | 3.73 | 5.95 | 3.17 | - | 9.8 |
| Upper Urban | 3.93 | 5.40 | 2.70 | 2.33 | 9.5 |
| Total | 3.76 | 5.60 | 2.79 | 3 | 9.3 |
| <i>Average Number of Days per Week Worked by Region and Job</i> | | | | | |
| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | |
| Urban Governorates | 5.24 | 5.21 | 3.85 | 2.33 | - |
| Lower Rural | 5.65 | 5.79 | 5.11 | 6 | - |
| Lower Urban | 5.41 | 5.78 | 3.38 | 5 | - |
| Upper Rural | 5.47 | 5.82 | 3.67 | - | - |
| Upper Urban | 5.39 | 5.56 | 3.20 | 2.33 | - |
| Total | 5.37 | 5.53 | 3.62 | 2.71 | - |

The average number of patients seen per week differs dramatically with which job it is as seen in Table 6.7. In private clinics 21 patients are seen on average per week. This increases to 96 patients in the second job, falls to 40 in the third job and to 27 patients in the fourth job. Again, caution must be exercised when evaluating the average number of private clinic visits. Using data from the Provider Survey the average number of visits per capita is 1.09 visits per year. However, data from the Household Survey⁵, conducted at the same time as the Provider Survey, yields an estimate of 1.92 visits per capita per year. This implies that doctors may underestimate the number of patients seen by approximately 76%.

⁵ The Egypt Household Health Care Use and Expenditure Survey was carried out concurrently with the Provider Survey in 1994-1995.

Table 6.7: Average Number of Patients Seen per Week by Specialty and Job

| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Total Average Number of Patients Seen</i> |
|-------------------|-----------------------|-------------------|------------------|-------------------|--|
| Cardiology | 27 | 113 | 24 | 27 | 129 |
| Chest | 24 | 101 | 20 | 20 | 119 |
| Dermatology | 20 | 136 | 28 | - | 148 |
| ENT | 20 | 80 | 62 | 7 | 98 |
| Fever | 23 | 115 | 30 | - | 134 |
| General Practice | 20 | 124 | 141 | - | 117 |
| Internal Medicine | 21 | 105 | 54 | - | 112 |
| Neurology | 20 | 68 | 14 | - | 79 |
| Ob/Gyn | 20 | 62 | 16 | 6 | 75 |
| Ophthalmology | 25 | 132 | 104 | - | 125 |
| Orthopedics | 13 | 151 | 86 | 50 | 185 |
| Other | 25 | 58 | 4 | 3 | 71 |
| Pediatrics | 33 | 107 | 59 | - | 133 |
| Psychiatry | 18 | 27 | 27 | - | 48 |
| Surgery | 15 | 76 | 20 | 61 | 88 |
| Total | 21 | 96 | 40 | 27 | 108 |

Physicians tend to see more patients per week in rural areas. For example, 29 patients are seen on average in private clinics in rural Upper Egypt, while only 19 are seen in urban governorates and 23 are seen in urban Upper Egypt. The rankings are similar for the other jobs. Table 6.8 shows the average number of patients seen per week by region and job. Although more patients are attended to in rural areas, they are not seen in the physician's private clinic as shown in Table 6.8. For example, a physician in a private clinic in rural Lower Egypt sees 17 patients, but 97 are seen in the second job, 60 in the third job and 200 in the fourth job. Similarly, in rural Upper Egypt 30 patients are seen per week in the physician's private clinic, but 138 are attended to in the second job. With the exception of rural Lower Egypt, the majority of patients in each region are seen in the second job.

Table 6.8: Average Number of Patients Seen per Week by Region

| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Total Average Number of Patients Seen</i> |
|--------------------|-----------------------|-------------------|------------------|-------------------|--|
| Urban Governorates | 20 | 88 | 51 | 22 | 98 |
| Lower Rural | 17 | 97 | 60 | 200 | 117 |
| Lower Urban | 19 | 84 | 22 | 50 | 90 |
| Upper Rural | 30 | 138 | 36 | - | 162 |
| Upper Urban | 24 | 100 | 33 | 10 | 117 |
| Total | 21 | 96 | 40 | 27 | 108 |

Table 6.9 shows the number of patients seen in the private sector according to which job it is. The main result is that the number of patients seen in the physician's own private clinic decreases if the physician has other employment in the private sector. The average number of patients seen in the private clinic per week is 20 patients, but if the physician has only 1 job he sees on average 24 patients per week. With 2 jobs, the second in the private sector, the physician sees, on average, 21 patients in the private clinic. This figure falls to 19 if he has three jobs, all in the private sector and to 16 if all 4 jobs are in the private sector.

Table 6.9: Average Number of Patients Seen in Private Clinics by Job

| | <i>Private Clinic</i> | <i>Job Two</i> | <i>Job Three</i> | <i>Job Four</i> |
|---------------------|---------------------------|--------------------|----------------------|---------------------|
| Private Clinic Only | 25 | - | - | - |
| Two Jobs only | 21 | 21 | - | - |
| Three Jobs only | 20 | 27 | 16 | - |
| Four Jobs | 20 | 25 | 3 | 13 |

The average number of patients seen per hour by specialty and job is shown in Table 6.10. On average physicians see 1 patient per hour in their private clinic. This increases to 3.2 patients per hour in the second job, 4.4 in the third job and 2.9 in the fourth job. An extreme example is that of general practitioners who see 1 patient per hour in their private clinic, approximately 4 in the second job and 12 in their third job.

Table 6.10: Average Number of Patients Seen per Hour by Specialty and Job

| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Total</i> |
|-------------------|---------------------------|-----------------------|----------------------|-----------------------|--------------|
| Cardiology | 1.3 | 3.4 | 4.6 | 2.5 | 5.5 |
| Chest | 1.4 | 3.0 | 3.2 | 3.3 | 4.7 |
| Dermatology | 1.5 | 6.3 | 2.9 | - | 7.7 |
| ENT | 1.1 | 2.9 | 4.4 | 1.3 | 4.5 |
| Fever | 1.0 | 3.6 | 8.8 | - | 5.8 |
| General Practice | 1.0 | 4.1 | 11.7 | - | 4.4 |
| Internal Medicine | 1.1 | 3.4 | 5.1 | - | 4.5 |
| Neurology | 1.8 | 2.5 | 1.4 | - | 4.1 |
| Ob/Gyn | 0.9 | 2.1 | 3.0 | 1.0 | 3.1 |
| Ophthalmology | 1.2 | 4.7 | 17.7 | - | 5.5 |
| Orthopedics | 0.8 | 4.6 | 5.9 | 3.3 | 7.1 |
| Other | 1.5 | 1.7 | - | 0.5 | 2.9 |
| Pediatrics | 1.4 | 3.7 | 4.5 | - | 5.3 |
| Psychiatry | 0.9 | 1.3 | 4.3 | - | 2.7 |
| Surgeon | 0.8 | 2.3 | 3.1 | 6.1 | 3.6 |
| Total | 1.0 | 3.2 | 4.4 | 2.9 | 4.5 |

Table 6.11 shows the average number of patients seen per hour by region and job and by affiliation and job. On average physicians see 2 patients per hour. In private clinics physicians see 1 patient per hour regardless of region. This increases to 2 patients in the second job, 4 in the third and falls to 3 in the fourth job. In general, the number of patients seen per hour increases with the job number.

Table 6.11: Average Number of Patients Seen per Hour by Affiliation and Region

| <i>Average Number of Patients Seen per Hour by Affiliation and Job</i> | | | | | |
|--|-----------------------|-------------------|------------------|-------------------|--------------|
| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Total</i> |
| Private Clinic | 1 | - | - | - | 1 |
| MOHP | - | 3.27 | 2.96 | 0.57 | 3.11 |
| CCO | - | 1.85 | 6.41 | - | 3.17 |
| HIO | - | 5.95 | 8.21 | 8.11 | 6.95 |
| University | - | 1.81 | 2.73 | 3.33 | 1.96 |
| Private | - | 1.98 | 1.63 | 1.54 | 1.68 |
| Other | - | 3.36 | 4.09 | 2.08 | 3.49 |
| Total | 1 | 3 | 4 | 3 | 2 |
| <i>Average Number of Patients Seen per Hour by Region and Job</i> | | | | | |
| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> | <i>Total</i> |
| Urban Governorates | 1 | 3 | 4 | 2 | 2 |
| Lower Rural | 1 | 3 | 6 | 10 | 2 |
| Lower Urban | 1 | 3 | 5 | 3 | 2 |
| Upper Rural | 1 | 4 | 4 | - | 3 |
| Upper Urban | 1 | 4 | 5 | 2 | 2 |
| Total | 1 | 3 | 4 | 3 | 2 |

VII. Revenue and Expenditures

Physicians were asked to estimate the monthly operating costs of their practice. This included salaries, rent, utilities, drugs, other medical supplies, other supplies, insurance, taxes and miscellaneous items. Table 7.1 shows the average practice cost per month by item and region. The overall average practice cost per month is L.E. 369. Salaries are the largest component of practice cost at 29% of the total practice expenditure in a month. Utilities and rent are the next largest expenditure items at 15% each of the total reported amount spent on practice costs per month, followed by medical supplies other than drugs at 11%. The least amount is spent on non-medical supplies comprising 5% of total practice cost, and drugs and insurance at 8% each. Clinics in urban Upper Egypt spend the largest proportion of total practice cost per month. In contrast, clinics in rural areas of Lower and Upper Egypt spend 15% of the amount spent in urban Upper Egypt on operating costs. Expenditures in urban governorates and urban Lower Egypt are 86% and 67%, respectively, of urban Upper Egypt expenditures on monthly practice costs. On average L.E. 112 is spent on salaries per month. As expected, salary expenditure is highest in urban areas: L.E. 123 in urban governorates and L.E. 113 and L.E. 119 in urban Lower and Upper Egypt respectively. This contrasts with L.E. 72 and L.E. 76 in rural Lower and Upper Egypt.

Table 7.1: Average Practice Cost (L.E.) per Month by Expenditure and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|------------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Salaries | 123 | 72 | 113 | 76 | 119 | 112 |
| Rent | 49 | 63 | 75 | 81 | 88 | 69 |
| Utilities | 60 | 32 | 62 | 39 | 71 | 60 |
| Drugs | 22 | 27 | 12 | 20 | 26 | 21 |
| Other Medical Supplies | 40 | 20 | 29 | 25 | 60 | 41 |
| Other Supplies | 12 | 12 | 19 | 18 | 29 | 19 |
| Insurance | 4 | 2 | 69 | 6 | 17 | 22 |
| Miscellaneous | 36 | 18 | 43 | 43 | 56 | 42 |
| Other | 6 | 1 | 7 | 4 | 14 | 8 |
| Total | 328 | 217 | 416 | 274 | 455 | 369 |

Physicians were asked the fee charged in their clinics for 9 procedures, but since all physicians do not offer all these services the most relevant fee to look at is that for patient examinations, a service offered by 798 physicians. Table 7.2 shows the average fee for patient examination by region. The average price charged for a patient examination in urban governorates is L.E. 15, which is over 2.5 times the price charged in rural regions. Urban Upper Egypt is the next most expensive region for a patient examination at L.E. 11, while physicians in urban Lower Egypt charge on average L.E. 9. The overall average fee charged by physicians is L.E. 11. However, approximately 47% of physicians charge L.E. 6 or less for a patient examination, while 2% charge a fee greater than L.E. 50. Table 7 presents the average fee charged for a patient examination by area of specialization.

Table 7.2: Summary Measures of Fee Charged for Patient Examination by Region

| | <i>Mean (L.E.)</i> | <i>Max (L.E.)</i> | <i>Median (L.E.)</i> | <i>Min (L.E.)</i> | <i>Frequency (Number)</i> |
|--------------------|--------------------|-------------------|----------------------|-------------------|---------------------------|
| Urban Governorates | 14.84 | 95 | 10 | 2 | 268 |
| Lower Rural | 4.74 | 20 | 4 | 2 | 70 |
| Lower Urban | 8.08 | 70 | 7 | 1 | 167 |
| Upper Rural | 4.60 | 10 | 5 | 2 | 58 |
| Upper Urban | 10.80 | 98 | 7 | 1 | 228 |
| Total | 10.59 | 98 | 7 | 1 | 791 |

Psychiatry, 'other' and cardiology specialties charge the highest fees in the sample at L.E. 36, L.E. 19 and L.E. 17, respectively, for a patient examination. On the other hand, pediatricians, fever specialists and general practitioners charge the least amount at L.E. 8, L.E. 5 and L.E. 5, respectively.

Table 7.3: Summary Measures of Fee Charged for Patient Examination by Area of Specialization

| | Mean (L.E.) | Max (L.E.) | Median (L.E.) | Min (L.E.) | Frequency (Number) |
|-------------------|------------------------|-----------------------|--------------------------|-----------------------|-------------------------------|
| Psychiatry | 35.50 | 98 | 23.5 | 6 | 14 |
| Other | 19.00 | 60 | 10 | 4 | 15 |
| Cardiology | 16.97 | 95 | 10 | 4 | 39 |
| Neurology | 16.83 | 30 | 15.5 | 10 | 6 |
| Ophthalmology | 15.26 | 50 | 10 | 1 | 39 |
| Dermatology | 13.06 | 40 | 10 | 4 | 35 |
| ENT | 12.95 | 40 | 9 | 4 | 40 |
| Orthopedics | 12.82 | 50 | 10 | 2 | 28 |
| Surgery | 10.48 | 50 | 7 | 3 | 137 |
| Internal Medicine | 10.24 | 70 | 7 | 2 | 89 |
| Chest | 10.00 | 25 | 7 | 2 | 29 |
| Ob/Gyn | 9.07 | 70 | 6 | 2 | 124 |
| Pediatrics | 7.56 | 40 | 5 | 1 | 85 |
| Fever | 5.18 | 10 | 5 | 2 | 11 |
| General Practice | 4.53 | 15 | 4 | 2 | 100 |
| Total | 10.59 | 98 | 7 | 1 | 791 |

Table 7.4 and 7.5 show gross income per month by region and areas of specialization, respectively. Gross income was calculated as the product of fee charged for a patient examination and the average number of patients seen per month for 786 private clinics. On average, gross income is L.E. 972 per month for a physician with a private clinic, but income ranges from L.E. 12 to L.E. 17,100. The average income for a physician with a private clinic in an urban governorate is L.E. 1,424 per month, which is more than 4 times the income of a physician in rural Lower Egypt and almost 2.5 times the income of a physician in rural Upper Egypt. Physicians in urban governorates earn 1.5 times the salary of physicians in Upper Egypt and twice the amount of physicians in Lower Egypt.

Table 7.4: Summary Measures of Gross Income by Region

| | Mean (L.E.) | Max (L.E.) | Median (L.E.) | Min (L.E.) | Frequency (Number) |
|--------------------|------------------------|-----------------------|--------------------------|-----------------------|-------------------------------|
| Urban Governorates | 1424 | 17100 | 500 | 24 | 267 |
| Lower Rural | 348 | 1680 | 228 | 16 | 70 |
| Lower Urban | 687 | 8000 | 320 | 12 | 165 |
| Upper Rural | 577 | 3000 | 410 | 36 | 58 |
| Upper Urban | 942 | 9600 | 580 | 20 | 226 |
| Total | 972 | 17100 | 420 | 12 | 786 |

As expected, psychiatrists, cardiologists and 'others' have the highest incomes as they charge the highest fees. Surgeons have the third lowest gross income in the sample at L.E. 539 per month. This is most likely explained by the fact that surgeons' hospital income is not captured in this survey, where the majority of their income is earned. In contrast, there are only 14 psychiatrists and they charge an average of L.E. 36 per patient examination. Fever specialists and general practitioners also have amongst the lowest gross incomes in the sample.

Table 7.5: Summary Measures of Gross Monthly Income by Area of Specialization

| | <i>Mean (L.E.)</i> | <i>Max (L.E.)</i> | <i>Median (L.E.)</i> | <i>Min (L.E.)</i> | <i>Frequency (Number)</i> |
|-------------------|------------------------|-----------------------|--------------------------|-----------------------|-------------------------------|
| Psychiatry | 2517 | 9600 | 1100 | 160 | 14 |
| Cardiology | 2059 | 17100 | 800 | 56 | 39 |
| Other | 2015 | 16800 | 800 | 140 | 15 |
| Ophthalmology | 1673 | 15000 | 600 | 80 | 39 |
| Dermatology | 1422 | 9600 | 600 | 48 | 35 |
| Neurology | 1223 | 1920 | 1420 | 256 | 6 |
| Pediatrics | 1206 | 16800 | 530 | 32 | 84 |
| ENT | 1125 | 4800 | 720 | 60 | 40 |
| Orthopedics | 1053 | 8000 | 400 | 60 | 27 |
| Chest | 1031 | 4620 | 720 | 16 | 29 |
| Internal Medicine | 985 | 11200 | 420 | 24 | 87 |
| Ob/Gyn | 730 | 5880 | 300 | 20 | 123 |
| Surgery | 539 | 3000 | 336 | 32 | 137 |
| Fever | 454 | 1000 | 400 | 60 | 11 |
| General Practice | 369 | 2400 | 240 | 12 | 100 |
| Total | 972 | 17100 | 420 | 12 | 786 |

Net income was calculated by subtracting monthly practice costs from gross income. Seven hundred sixty-eight private clinics out of 802 clinics surveyed provided the information required to calculate net income, which is presented in Table 7.6 by region, and Table 7.7 by specialization. On average the net income of a physician with a private clinic is L.E. 616 per month. As expected, physicians in urban governorates have the highest net income at L.E. 1,619. This is more than twice the amount earned in urban areas of Lower and Upper Egypt. It is almost 6 times the net income of a physician in rural Lower Egypt and over 3 times the net income of a physician in rural Upper Egypt.

Table 7.6: Average Net Income by Region

| | <i>Mean (L.E.)</i> | <i>Frequency (Number)</i> |
|--------------------|------------------------|-------------------------------|
| Urban Governorates | 1112 | 183 |
| Lower Rural | 128 | 43 |
| Lower Urban | 327 | 94 |
| Upper Rural | 301 | 39 |
| Upper Urban | 490 | 152 |
| Total | 616 | 786 |

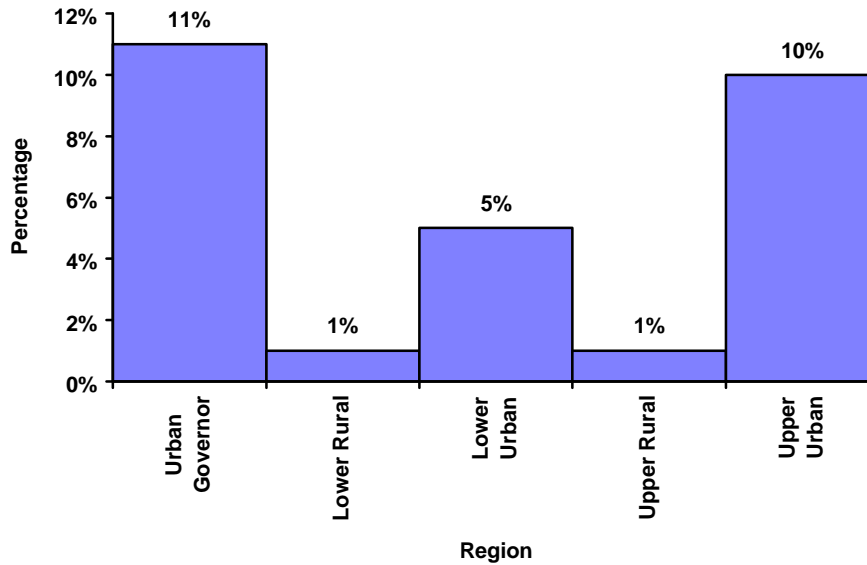
Table 7.7: Average Net Income by Area of Specialization

| | <i>Mean (L.E.)</i> | <i>Frequency (Number)</i> |
|-------------------|-------------------------------|--------------------------------------|
| Psychiatry | 2069 | 13 |
| Cardiology | 1737 | 38 |
| Other | 1549 | 15 |
| Ophthalmology | 1272 | 38 |
| Dermatology | 1071 | 35 |
| Pediatrics | 897 | 81 |
| Chest | 747 | 28 |
| ENT | 732 | 40 |
| Orthopedics | 634 | 27 |
| Internal Medicine | 571 | 86 |
| Neurology | 560 | 5 |
| Ob/Gyn | 306 | 120 |
| General Practice | 181 | 96 |
| Surgery | 177 | 135 |
| Fever | 145 | 11 |
| Total | 616 | 768 |

On average 28% of all physicians with private clinics have contracts to provide health services to certain groups. The majority of physicians with contracts are located in urban areas and have an area of specialization other than general practice. Sixty percent of physicians in urban areas of Lower and Upper Egypt and 31% in urban governorates have contracts, but only 22% of physicians in rural areas of Lower and Upper Egypt have similar arrangements. Figure 7.1 shows the percentage of physicians with contracts by region.

Approximately 31% of all patients treated by physicians with contracts are contracted; 54% of patients treated by doctors with contracts in urban areas are contracted as are 51% of rural area patients and 38% of urban governorate patients. Dermatology with 61% and ENT with 63% have the highest percentage of physicians with contracts. All contracted patient percentages refer to the percentage of patients treated under contract to all patients in the clinic by physicians with contracts only. It does not refer to the total percentage of patients seen by all physicians. Cardiologists with contracts have the greatest proportion of contracted patients with 45%, all of whom are treated in urban governorates. This is followed by psychiatry where 42% of patients seen by physicians with contracts are contracted, all of who are treated in urban Upper Egypt or urban governorates. Only 15% of all ENT patients and 24% of dermatology patients attending physicians with contracts are contracted. General practitioners with 9% are by far the lowest percentage of physicians with contracts. The main specialties have the following percentages of physicians with contracts: surgery 30%, pediatrics 25%, internal medicine 24%, and obstetrics and gynecology 19%. The percentage of contracted patients of all patients of physicians with contracts for the main specialties are: general practice 25%, obstetrics and gynecology 20%, pediatrics and surgery 16% and internal medicine 5%. As expected, urban governorates with 38% also have the highest percentage of contracted patients in terms of all patients treated by physicians with contracts. Nineteen percent of all patients treated by physicians with contracts are contracted in rural Lower Egypt, whereas 32% are in rural Upper Egypt. Twenty-seven percent of all patients are contracted in both urban Lower and Upper Egypt.

Figure 7.1: Percentage of Physicians with Contracts by Region



Seventy-two percent of all physicians have no contracts for payment and attend only to the general public. The remaining 28% of physicians in private clinics with contracts are paid by various payment methods: 62% are paid according to the number of patients seen, 37% are paid by fee for service, 7% receive a constant monthly salary and 6% are paid by other methods. Fixed price per patient is prevalent in urban areas (16% in Lower and 40% in Upper Egypt) and urban governorates (39%). The same is true for fee for service with 26% of physicians with contracts using this method for charging patients in urban Lower and 27% in Upper Egypt, respectively, and 44% in urban governorates.

VIII. Quality

Forty-seven percent of physicians were satisfied with the number of clients they had, but 53% thought the number was insufficient. The largest percentage of dissatisfied physicians were in urban governorates (58%) and rural Upper Egypt (56%). In rural Lower Egypt 54% of physicians wanted more clients, as did 51% of physicians in urban Lower Egypt. The least number of dissatisfied physicians were in urban Upper Egypt where 47% would like more patients. Sixty percent of physicians said the reason the number of patients was insufficient was that they had no clients, 16% thought there was a low standard, 18% felt that their income was too low and 33% stated that their area was crowded with physicians. On average, physicians would like to see 11 patients per day: 12 in urban governorates, 10 in both urban and rural Lower Egypt, 11 in urban Upper and 15 in rural Upper Egypt.

Physicians spend on average 20 minutes per patient in private clinics. However the time spent per patient is only 14 minutes in rural Upper Egypt and 16 minutes in rural Lower Egypt. In urban governorates and urban Upper Egypt physicians spend an average of 20 minutes.

Forty-three percent of private clinics always keep files recording the basic information and medical history of patients, 14% sometimes keep files and 43% never keep files. Urban areas and urban governorate clinics are more likely to keep records than those based in rural areas. Sixty-one percent of clinics in urban governorates either always or sometimes keep files, as do 60% of clinics in urban Lower Egypt and 59% in urban Lower Egypt. In comparison, only 42% of

clinics in rural Lower Egypt and 39% in rural Upper Egypt always or sometimes keep files. In most cases, the physician documents the information. However, 13 private clinics have nurses to keep the files and 22 have a secretary or a clerk to document patient histories. There are no clerks or secretaries in rural areas keeping files and only 3 nurses in rural areas taking patient information.

Thirty-three percent of physicians in the sample subscribe to medical journals and again physicians in urban areas or urban governorates are more likely to have journal subscriptions than their rural counterparts. Forty-one percent of physicians in urban governorates, 32% in urban Lower Egypt and 37% in urban Upper Egypt subscribe to medical journals, but only 13% of physicians in rural Lower and Upper Egypt subscribe to similar journals. Sixty-two percent of physicians advanced their medical knowledge through books, 49% through training, 31% with information from drug companies, 8% through other methods and 7% through governmental agencies. In all cases physicians in urban areas far outnumbered those in rural areas in usage of sources for knowledge advancement.

Twenty-three percent of private clinics have a declared price list for treatments and services offered. Rural clinics are more likely to have a set fee schedule than urban based clinics: 44% of clinics in rural Upper and 28% in urban Upper Egypt have price lists compared with 16% in urban governorates, 17% in rural Lower and 28% in urban Upper Egypt. Forty percent of clinics price discriminate according to the occupation of the patient and 49% discriminate according to the patient's income level. Three percent of all clinics discriminate by waiting time and 5% use other criteria. Table 8.1 shows the causes for price discrimination by region. Discrimination by the patient's income level is most prevalent in rural areas where 54 % of physicians in Lower Egypt and 59% in Upper Egypt discriminate in this way. In contrast, discrimination by occupation of patient is more likely to occur in urban regions than rural regions.

Table 8.1: Percentage of Clinics Price Discriminating and Reasons for Price Discriminating

| | <i>Occupation of Patient</i> | <i>Income Level of Patient</i> | <i>Waiting Time</i> | <i>Other</i> |
|--------------------|---|---|--------------------------------|---------------------|
| Urban Governorates | 43% | 57% | 7% | 4% |
| Lower Rural | 28 | 54 | 0 | 6 |
| Lower Urban | 39 | 41 | 1 | 2 |
| Upper Rural | 39 | 59 | 0 | 14 |
| Upper Urban | 41 | 42 | 1 | 7 |
| Total | 40 | 49 | 3 | 5 |

Dentists

I. Geographic Distribution

There are 113 dentists in the sample of 915 private clinics. Like physicians, dentists are more likely to be urban based: 49% are located in urban governorates, 27% in urban Lower Egypt and 15% in urban Upper Egypt. The remaining 9% are in rural areas with 5% in Lower Egypt and 4% in Upper Egypt. Eight percent of dentists are female and, again, are located mostly in urban areas: 56% in urban governorates and 22% each in rural Lower Egypt and urban Upper Egypt. There are no female dentists in urban Lower Egypt or rural Upper Egypt in the sample.

II. Dentists' Characteristics

On average, a male dentist is 40 years old with 16 years of experience. Female dentists are younger with slightly less experience: 38 years old with an average of 15 years of experience.

The dentists in the sample are highly qualified as approximately 65% of the sample have a qualification higher than a bachelor's degree. Dentists are not as qualified as physicians are, because only 14% of the physicians sampled have just a Bachelor in Medicine. Thirty-four percent of dentists have a Diploma in Medicine, 19% a Masters in Medicine, 1% a fellowship and 11% a Ph.D. in Medicine. No female dentist has a fellowship or Ph.D.; 56% have a diploma and 11% have a master's degree. In comparison, only 32% of male dentists have a diploma, but 20% have a master's degree, 1% have a fellowship and 13% have a Ph.D. All rural-based physicians, 9% of the sample, were educated within Egypt and all have either a Bachelor or Diploma in Medicine. All dentists holding higher degrees and external degrees are located in urban areas as can be seen in Table 2.1.

Table 2.1 : Dentists Education - Degree and Where Earned

| | <i>Percent of Total</i> | | <i>Percent of Total</i> | | <i>Percent of Urban</i> | | <i>Percent of Rural</i> | |
|------------------------------|-------------------------|---------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|
| Highest Degree Earned | Male | Female | Egypt | Outside | Egypt | Outside | Egypt | Outside |
| Bachelor in Medicine | 35 | 33 | 37 | 0 | 35 | 0 | 60 | 0 |
| Diploma in Medicine | 32 | 56 | 36 | 13 | 35 | 13 | 40 | 0 |
| Master in Medicine | 20 | 11 | 18 | 37 | 20 | 37 | 0 | 0 |
| Fellowship | 1 | 0 | 0 | 13 | 0 | 13 | 0 | 0 |
| Ph.D. in Medicine | 12 | 0 | 9 | 37 | 10 | 37 | 0 | 0 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

III. Clinic Characteristics

There are no beds in the dental clinics sampled and none are open 24 hours a day. Three percent are open in the morning only, 68% in the evening only and 29% are open both morning and evening. Approximately 4% of urban governorate clinics are open only in the morning as are 10% of rural clinics. The majority of clinics in all areas are open only in the evening: 75% of clinics in urban governorates, 70% of rural area clinics and 60% of urban¹ clinics are open only in the evening. Approximately a third of all clinics are open both morning and evening: 22% of urban governorate clinics, 20% of rural area clinics and 40% of urban area clinics in Upper and Lower Egypt.

¹ Urban areas include urban areas in Upper and Lower Egypt, but excludes urban governorates.

Table 3.1 : Percentage Distribution of Working Time in Clinic by Region

| | <i>Morning Only</i> | <i>Evening Only</i> | <i>Morning & Evening</i> |
|---------------------------|----------------------------|----------------------------|-------------------------------------|
| Urban Governorates | 3.6 | 74.5 | 21.8 |
| Rural Lower & Upper Egypt | 10.0 | 70.0 | 20.0 |
| Urban Lower & Upper Egypt | 0.0 | 60.4 | 39.6 |
| Total | 2.7 | 68.1 | 29.2 |

There are 145 staff jobs in the sampled dental clinics: 102 full-time and 43 part-time. Table 3.2 shows the total number of staff jobs by region. Secretaries and cleaners are the only non-medical employees in dental clinics and constitute 68% of all staff jobs. The majority of medical employees are nurses and assistant physicians with 23% and 6% of total staff jobs, respectively. Similar to physician private clinics, the majority of staff jobs are located in urban areas: 51% in urban governorates, 42% in urban areas of Lower and Upper Egypt and 7% in rural areas of Lower and Upper Egypt.

Table 3.2 : Total Number of Staff by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------------|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------|
| Secretaries | 28 | 1 | 15 | 0 | 8 | 52 |
| Cleaner | 17 | 2 | 15 | 3 | 10 | 47 |
| Nurses | 22 | 2 | 5 | 2 | 3 | 34 |
| Asst. Physician | 6 | 0 | 2 | 0 | 0 | 8 |
| Anesthesiologist | 0 | 0 | 2 | 0 | 0 | 2 |
| Physical Therapist | 0 | 0 | 0 | 0 | 1 | 1 |
| Lab Technician | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | 74 | 5 | 39 | 5 | 22 | 145 |

IV. Services Offered

Table 4.1 shows the percentage of dentists offering certain kinds of treatments by region. The most common services are patient examinations, surgeries and other services. The least common are giving injections and laboratory tests. Certain services are not offered in some areas. For example, there are no dentists in rural areas of Upper and Lower Egypt who provided radiological services. Also, dentists in urban Lower Egypt only provide laboratory tests.

Table 4.1 : Percentage of Dentists Offering Specialized Services by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|----------------------|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------|
| Patient Examinations | 100 | 100 | 100 | 100 | 100 | 100 |
| Surgeries | 24 | 17 | 55 | 25 | 59 | 37 |
| Routine Check-up | 27 | 33 | 26 | 25 | 29 | 27 |
| Other | 13 | 33 | 39 | 25 | 18 | 22 |
| Radiology | 25 | 0 | 6 | 0 | 29 | 19 |
| First Aid | 2 | 17 | 13 | 25 | 6 | 7 |
| Giving Injections | 2 | 33 | 6 | 0 | 6 | 5 |
| Lab Tests | 0 | 0 | 6 | 0 | 0 | 2 |

Table 4.2 shows that the most common reason for visiting a dentist is for an examination, with a dentist seeing on average 56 patients per month for an examination. This is followed by radiology and routine check-ups. There is little demand for most other services. For example, on average there are 2 patients per month requiring first aid, 3 requiring surgery and 4 needing other services.

Table 4.2 : Average Number of Patients Seen by Treatment and Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|----------------------|-------------------------------|------------------------|------------------------|------------------------|------------------------|--------------|
| Patient Examinations | 62 | 47 | 28 | 106 | 63 | 56 |
| Radiology | 13 | 0 | 18 | 0 | 18 | 15 |
| Routine Check-up | 8 | 10 | 6 | 40 | 10 | 9 |
| Giving Injections | 20 | 4 | 9 | 0 | 2 | 8 |
| Lab Tests | 0 | 0 | 4 | 0 | 0 | 4 |
| Other | 2 | 8 | 7 | 3 | 1 | 4 |
| Surgeries | 3 | 0 | 4 | 2 | 3 | 3 |
| First Aid | 1 | 0 | 3 | 2 | 2 | 2 |

V. Multiple Employment

Twenty percent of the 113 dentists sampled work only in their private clinic. Seventy-three percent have two jobs, 6% have three jobs and 1% have four jobs. This implies that the 113 dentists have 213 jobs, of which 100 are extra jobs. Urban-based dentists are more likely to have only one job as 95% of those working only in their clinic are located in urban governorates or urban areas of Lower and Upper Egypt. They are also more likely to have a second and third job as 92% of those with a second job and 71% of those with a third job are urban-based. However, the only dentist with four jobs is located in rural Lower Egypt.

Table 5.1 shows the affiliation and regional distribution of dentists with multiple employment. Sixty-one percent of those with second jobs are employed by the MOH. Universities provide approximately 20% of second jobs and 10% are provided by the HIO. None of the dentists with a second job are employed by the private sector. Only 3% of extra jobs, or two dentists with three jobs, are provided by private sector. Others provide 57% of third jobs. The dentist with four jobs is employed by the MOH in all of his extra jobs.

Table 5.1 : Affiliation and Regional Distribution of Dentists with Multiple Jobs

| | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
|--------------------|--------------------------|-------------------------|--------------------------|
| Affiliation | | | |
| MOH | 51 | 1 | 1 |
| CCO | 0 | 0 | 0 |
| HIO | 8 | 0 | 0 |
| University | 16 | 0 | 0 |
| Private | 0 | 2 | 0 |
| Other | 8 | 4 | 0 |
| Total | 83 | 7 | 1 |
| Region | | | |
| Urban Governorates | 40 | 1 | 0 |
| Lower Rural | 2 | 2 | 1 |
| Lower Urban | 28 | 1 | 0 |
| Upper Rural | 4 | 0 | 0 |
| Upper Urban | 9 | 3 | 0 |
| Total | 83 | 7 | 1 |

In general, dentists spend more time working in their second job, most likely a government job, and see more patients than in their private clinics. On average, the dentists work five hours per day, six days per week in their government job, whereas they work four hours per day, six days per week in their own clinics. On average they see 88 patients per week at a rate of approximately three patients per hour in the second job. The number of patients seen drops dramatically in their private clinic to 14 patients per week at a rate of 0.6 patients per hour. The patient rate per hour in the third and fourth job at 3.4 and 2.5, respectively, is close to the rate in the second job and again much higher than the put-through rate in the private clinic.

Table 5.2 : Summary Measures of Hours Worked and Patients Seen by Job

| | <i>Private Clinic</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
|--|------------------------------|--------------------------|-------------------------|--------------------------|
| Average Number of Hours Worked per Day | | | | |
| | 4 | 5 | 3 | 4 |
| Average Number of Days Worked per Week | | | | |
| | 6 | 6 | 3 | 1 |
| Average Number of Hours Worked per Week | | | | |
| | 22 | 29 | 11 | 4 |
| Average Number of Patients Seen per Week | | | | |
| | 14 | 88 | 18 | 10 |
| Average Number of Patients Seen per Hour | | | | |
| | 0.6 | 2.9 | 3.4 | 2.5 |

Table 5.3 presents the above measures by region and Table 5.4 by affiliation. In general, dentists work more hours per day in rural areas than urban areas, but more patients are seen per week and per hour in urban areas, with the exception of rural Upper Egypt.

Table 5.3 : Average Number of Hours Worked and Patients Seen by Region and Job

| <i>Average Number of Hours Worked per Day</i> | | | | |
|---|------------------------|-------------------|------------------|-------------------|
| | <i>Private Clinics</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| Urban Governorates | 4 | 5 | 1 | - |
| Lower Rural | 6 | 3 | 3 | 4 |
| Lower Urban | 4 | 6 | 4 | - |
| Upper Rural | 4 | 6 | - | - |
| Upper Urban | 4 | 5 | 4 | - |
| Total | 4 | 5 | 3 | 4 |
| <i>Average Number of Days per Week</i> | | | | |
| | <i>Private Clinics</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| Urban Governorates | 5 | 6 | 4 | - |
| Lower Rural | 6 | 5 | 2 | 1 |
| Lower Urban | 6 | 6 | 3 | - |
| Upper Rural | 5 | 5 | - | - |
| Upper Urban | 6 | 5 | 4 | - |
| Total | 6 | 6 | 3 | 1 |
| <i>Average Number of Hours Worked per Week</i> | | | | |
| | <i>Private Clinics</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| Urban Governorates | 20 | 30 | 4 | - |
| Lower Rural | 33 | 18 | 5 | 4 |
| Lower Urban | 22 | 32 | 12 | - |
| Upper Rural | 20 | 32 | - | - |
| Upper Urban | 25 | 26 | 19 | - |
| Total | 22 | 29 | 11 | 4 |
| <i>Average Number of Patients Seen per Week</i> | | | | |
| | <i>Private Clinics</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| Urban Governorates | 14 | 73 | 35 | - |
| Lower Rural | 11 | 40 | 19 | 10 |
| Lower Urban | 11 | 116 | 25 | - |
| Upper Rural | 26 | 124 | - | - |
| Upper Urban | 20 | 75 | 10 | - |
| Total | 14 | 88 | 18 | 10 |
| <i>Average Number of Patients Seen per Hour</i> | | | | |
| | <i>Private Clinics</i> | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| Urban Governorates | 0.7 | 2.5 | 9.0 | - |
| Lower Rural | 0.4 | 3.6 | 3.8 | - |
| Lower Urban | 0.5 | 3.2 | 2.1 | 2.5 |
| Upper Rural | 1.2 | 4.2 | - | - |
| Upper Urban | 0.7 | 2.6 | 1.6 | - |
| Total | 0.6 | 2.9 | 3.4 | 2.5 |

Table 5.4 : Average Number of Hours Worked and Patients Seen by Affiliation and Job

| <i>Average Number of Hours Worked per Day</i> | | | |
|---|-------------------|------------------|-------------------|
| | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| MOH | 5 | 4 | 4 |
| CCO | - | - | - |
| HIO | 5 | - | - |
| University | 5 | - | - |
| Private | - | 4 | - |
| Other | 6 | 2 | - |
| Total | 5 | 3 | 4 |
| <i>Average Number of Days per Week</i> | | | |
| | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| MOH | 6 | 2 | 1 |
| CCO | - | - | - |
| HIO | 6 | - | - |
| University | 5 | - | - |
| Private | - | 6 | - |
| Other | 6 | 3 | - |
| Total | 6 | 3 | 1 |
| <i>Average Number of Patients per Week</i> | | | |
| | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| MOH | 88 | 27 | 10 |
| CCO | - | - | - |
| HIO | 115 | - | - |
| University | 28 | - | - |
| Private | - | 10 | - |
| Other | 154 | 18 | - |
| Total | 88 | 18 | 10 |
| <i>Average Number of Patients Seen per Hour</i> | | | |
| | <i>Second Job</i> | <i>Third Job</i> | <i>Fourth Job</i> |
| MOH | 3 | 6 | 3 |
| CCO | - | - | - |
| HIO | 4 | - | - |
| University | 1 | - | - |
| Private | - | 0.4 | - |
| Other | 4 | 4 | - |
| Total | 3 | 3 | 3 |

VI. Finance

The average fee for a dental examination is L.E.10 for the total sample, with a range from L.E. 4 to L.E. 13 by region. Urban regions that have more dentists tend to have higher fees than rural regions with relatively few dentists: a dentist charges L.E. 13 in urban governorates where 49% of dentists are located. Similarly, a fee of L.E. 9 is charged by dentists in urban Upper Egypt where 15% of dentists are located and L.E. 5 is charged on average by 27% of dentists who are located in urban areas of Lower Egypt. On the other hand, 5% of dentists are located in rural Lower

Egypt and charge L.E. 4 for a patient examination, while dentists charge L.E. 5 in rural Upper Egypt and account for 4% of the sample. Table 6.1 shows the average fee for a patient examination and average practice cost by region.

Table 6.1 : Average Fee for Patient Examination and Practice Cost by Region (L.E.)

| | <i>Fee (L.E.)</i> | <i>Average Practice Cost (L.E.)</i> |
|--------------------|------------------------------|--|
| Urban Governorates | 13 | 483 |
| Lower Rural | 4 | 370 |
| Lower Urban | 5 | 322 |
| Upper Rural | 5 | 386 |
| Upper Urban | 9 | 497 |
| Total | 10 | 431 |

On average, dentists spend L.E. 431 per month on their practice. The breakdown of average practice cost by expenditure and region is presented in Table 6.2. Unlike physician practices where salaries are the main source of expenditure, medical supplies other than drugs are the largest expenditure item per month in dental clinics. Dentists spend more on utilities, drugs, and miscellaneous items and other supplies than physicians; on all other cost items, expenditures for physicians exceed those for dentists.

Table 6.2 : Average Practice Cost per Month by Expenditure and Region (L.E.)

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|------------------------|--------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------|
| Other Medical Supplies | 104 | 135 | 70 | 35 | 110 | 95 |
| Salaries | 117 | 66 | 50 | 70 | 96 | 90 |
| Utilities | 94 | 62 | 42 | 32 | 68 | 71 |
| Drugs | 62 | 17 | 47 | 62 | 68 | 56 |
| Rent | 53 | 75 | 52 | 72 | 58 | 55 |
| Miscellaneous | 59 | 17 | 32 | 55 | 29 | 44 |
| Other Supplies | 25 | 21 | 15 | 50 | 48 | 27 |
| Other | 10 | 2 | 9 | 0 | 22 | 11 |
| Insurance | 6 | 0 | 11 | 8 | 11 | 8 |
| Total | 483 | 371 | 322 | 386 | 497 | 431 |

VII. Quality

Forty-four percent of dentists stated that the number of patients attending their clinics was insufficient for them. Sixty-six percent of dentists in rural Lower Egypt were unsatisfied with the number attending their clinics. In both urban governorates and urban Lower Egypt 45% of dentists were unsatisfied with patient numbers. In Upper Egypt, 25% of rural dentists and 35% of urban dentists expressed dissatisfaction with the numbers of patients attending their clinics. Seventy-two percent of dissatisfied dentists stated that having no clients was the reason for their dissatisfaction. Twenty-six percent felt that there were too many dentists in the area and 24% said that a low standard was the reason for poor attendance at the clinic. Eighteen percent were dissatisfied because their income was low and 14% gave other reasons.

Dentists reported spending an average of 22 minutes with each patient. In Lower Egypt, dentists report spending 21 minutes with patients in rural areas and 18 in urban areas. In Upper Egypt, dentists reported spending more time with patients in urban areas than rural areas: 27 minutes per patient in urban areas and 16 minutes in rural areas.

Only 29% of dentists, all located in urban areas or urban governorates, report that they always keep records for each patient. Twenty percent sometimes keep records of which all except one live in urban areas, and the remaining 51% never keep records. In 95% of clinics where records are always or sometimes kept, it is the dentist who documents the information.

Twenty percent of dentists subscribe to medical journals, but none are located in rural areas of Lower and Upper Egypt. Books are the main source of reference as 50% of dentists report this as a source for advancing knowledge. Thirty-five percent use training, 26% use information from syndicates and 24% use drug companies for advanced medical knowledge. Seventeen percent have other methods and 7% use information from government agencies.

Only 10% of dental clinics have a declared price list for procedures carried out. Fifty percent of clinics in rural Upper Egypt have a price list, but none in rural Lower Egypt have such a list. Thirteen percent of urban governorate clinics, 6% of urban Upper Egypt clinics and 3% of urban Lower Egypt clinics have a declared price list. The most common reason for price discrimination is the income level of the patient with 42% of clinics discriminating according to this criterion. Thirty-seven percent of clinics discriminate according to the occupation of the patient. Waiting time and other reasons are other criteria clinics use, but these are not very prevalent and are confined to urban areas and urban governorates. The distribution of clinics by region and criteria for price discriminating is presented in Table 7.1.

Table 7.1 : Percentage of Clinics Price Discrimination and Reasons for Discriminating

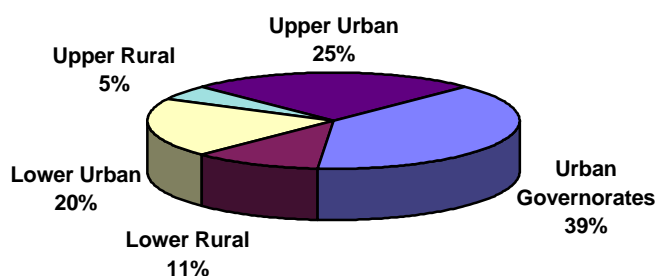
| | <i>Occupation of Patient</i> | <i>Income Level of Patient</i> | <i>Waiting Time</i> | <i>Other</i> |
|--------------------|----------------------------------|------------------------------------|-------------------------|--------------|
| Urban Governorates | 18% | 22% | 1% | 1% |
| Lower Rural | 2 | 3 | 0 | 0 |
| Lower Urban | 10 | 11 | 1 | 0 |
| Upper Rural | 1 | 1 | 0 | 0 |
| Upper Urban | 7 | 6 | 0 | 2 |
| Total | 37 | 42 | 2 | 3 |

Pharmacies

I. Distribution of Providers

There are 261 pharmacies in the sample: 39% in urban governorates, 25% and 20% in urban Upper and Lower Egypt and 11% and 5% in rural Lower and Upper Egypt, respectively. Alternatively, in the sample, there are 5 times more pharmacies in urban areas or urban governorates than in rural areas.

Figure 1.1: Regional Distribution of Pharmacists



In each pharmacy the main pharmacist was interviewed for the survey of which 81% were male and 19% were female. Female pharmacists are more likely to be employed in urban areas or urban governorates than rural areas as 90% of females in the sample are located in urban regions as can be seen from Table 1.1.

Table 1.1: Distribution of Pharmacists by Gender

| | <i>Male Percentage</i> | <i>Female Percentage</i> | <i>Total Percentage</i> |
|--------------------|------------------------|--------------------------|-------------------------|
| Urban Governorates | 28.7% | 10.7% | 39.5% |
| Lower Rural | 8.8 | 2.3 | 11.1 |
| Lower Urban | 17.2 | 2.3 | 19.5 |
| Upper Rural | 5 | 0.4 | 5.4 |
| Upper Urban | 21.1 | 3.4 | 24.5 |
| Total | 80.8 | 19.2 | 100 |

II. Characteristics of Supply

Many pharmacists travel to different regions from their residence to their place of work. Table 2.1 shows the residence of pharmacists relative to the location of their pharmacy. Approximately 11% of the sample travel between governorates to work and 20% work in different regions within the same governorate. The remaining 68% of pharmacists live in the same city or village as the pharmacy they were interviewed in.

Table 2.1: Current Residence of Pharmacists

| <i>Current Residence</i> | <i>Percentage</i> |
|---------------------------------|--------------------------|
| In the same city/village | 68.2 |
| Urban in the same governorate | 18.77 |
| Urban in another governorate | 11.11 |
| Rural in the same governorate | 1.53 |
| Rural in another governorate | 0.38 |
| Total | 100 |

The average age of pharmacists in the whole sample is 42 years as shown in Table 2.2, which shows average age by region and gender. In rural areas they are slightly younger at 40 and 39 years old in Lower and Upper Egypt, respectively. On average, pharmacists are 42 and 43 years old in urban areas of Lower and Upper Egypt. Female pharmacists tend to be several years younger than males: on average, females are 38 years and males are 43 years old.

Table 2.2: Average Age of Pharmacists by Gender

| | <i>Male</i> | <i>Female</i> | <i>Total</i> |
|--------------------|--------------------|----------------------|---------------------|
| Urban Governorates | 44 | 37 | 42 |
| Lower Rural | 40 | 41 | 40 |
| Lower Urban | 43 | 38 | 42 |
| Upper Rural | 40 | 30 | 39 |
| Upper Urban | 44 | 39 | 43 |
| Total | 43 | 38 | 42 |

For approximately 96% of the sample a Bachelor degree is the highest certificate in pharmacology. Three percent of the sample has a Diploma, 1% have a Ph.D. and no pharmacist has a Masters degree. All pharmacists with a Diploma work in urban governorates while those with a Ph.D. work in urban Upper Egypt. Table 2.3 shows highest certificate obtained by region.

Table 2.3: Highest Degrees Earned in Pharmacology by Region

| | <i>Bachelor</i> | <i>Diploma</i> | <i>Ph.D.</i> | <i>Total</i> |
|--------------------|------------------------|-----------------------|---------------------|---------------------|
| Urban Governorates | 38% | 2% | 0% | 40% |
| Lower Rural | 11 | 0 | 0 | 11 |
| Lower Urban | 19 | 0 | 0 | 19 |
| Upper Rural | 5 | 0 | 0 | 5 |
| Upper Urban | 23 | 1 | 1 | 25 |
| Total | 96 | 3 | 1 | 100 |

Approximately 81% of the pharmacists interviewed own their own pharmacy, 6% are co-owners and 13% are employed by others. As expected, the majority of employed pharmacists work in urban governorates (7% of sample), followed by urban areas of Lower and Upper Egypt (5%) and rural areas of Lower and Upper Egypt (1%). On average, pharmacists have been working 11 years in the pharmacy where they were interviewed. Pharmacists in rural Lower Egypt have been working on average only 8 years where they were interviewed. This may be attributed to the fact that pharmacists in rural areas tend to be younger than pharmacists in urban areas. Alternatively, it may suggest that there has been a recent increase in the number of pharmacies in the region. This is supported by the fact that of the 29 pharmacies in that region, only 3% of pharmacists are residents, while others travel to work in the region. Overall, pharmacies in the sample have been operating for an average of 18 years. Rural pharmacies were operating for an average of 15 years in Lower Egypt and 12 years in Upper Egypt. Pharmacies in urban governorates and urban Upper Egypt were in business for 19 years, while those in urban Lower Egypt have been operating for the last 20 years.

Approximately 64% of pharmacies are open 6 days per week. Only 1 pharmacy, located in rural Lower Egypt, is open 5 days per week. The remaining 36% are open 7 days per week. Pharmacies are open on average approximately 12 hours a day, except for rural Upper Egypt where they are open 9.71 hours per day, and urban Upper Egypt where they are open 11.31 hours per day. On average, pharmacies are opened 74.21 hours per week as shown in Table 2.4. Pharmacies in Upper Egypt have the shortest week at 63.84 hours in rural areas and 72 hours in urban areas. Urban governorate pharmacies are next with 74.45 hours. The longest week is in Lower Egypt: 78.68 hours in urban areas and 76.14 in rural areas.

Table 2.4: Pharmacy Hours by Region

| | <i>Average Number of Days per Week</i> | <i>Average Number of Hours per Day</i> | <i>Average Number of Hours per Week</i> |
|--------------------|---|---|--|
| Urban Governorates | 6.30 | 11.82 | 74.45 |
| Lower Rural | 6.34 | 12.00 | 76.14 |
| Lower Urban | 6.45 | 12.20 | 78.68 |
| Upper Rural | 6.57 | 9.71 | 63.84 |
| Upper Urban | 6.33 | 11.31 | 71.59 |
| Total | 6.36 | 11.67 | 74.21 |

There are 633 personnel employed in the pharmacies sampled: 46% work full-time and 54% work part-time. Table 2.5 shows the distribution of personnel by employment and payment status. Approximately 1% of full-time and part-time employees are unpaid. Sixty percent of personnel are sales assistants and 30% are cleaners. Cashiers, secretaries, guards and others make up the remaining 10% of personnel employed in pharmacies.

Table 2.5: Total Number of Personnel Working in Pharmacies by Employment and Payment Status

| | Full-Time | | | | Part-time | | | | |
|---------------|-----------|---------|--------|---------|-----------|---------|--------|---------|--------|
| | Paid | | Unpaid | | Paid | | Unpaid | | Total |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number |
| Sales Persons | 184 | 48.3 | 2 | 0.5 | 194 | 50.9 | 1 | 0.3 | 381 |
| Cleaners | 71 | 38.0 | 0 | 0.0 | 116 | 62.0 | 0 | 0.0 | 187 |
| Cashiers | 22 | 57.9 | 0 | 0.0 | 15 | 39.5 | 1 | 2.6 | 38 |
| Secretaries | 8 | 66.7 | 0 | 0.0 | 4 | 33.3 | 0 | 0.0 | 12 |
| Guards | 5 | 55.6 | 0 | 0.0 | 4 | 44.4 | 0 | 0.0 | 9 |
| Other | 1 | 16.7 | 0 | 0.0 | 4 | 66.7 | 1 | 16.7 | 6 |
| Total | 291 | 46.0 | 2 | 0.3 | 337 | 53.2 | 3 | 0.5 | 633 |

The distribution of personnel by region is given in Table 2.6. There are 5 personnel who work free of charge: 2 live in rural areas of Lower and Upper Egypt, 2 live in urban areas of Lower Egypt and 1 lives in an urban governorate. The number of personnel in urban areas and urban governorates is approximately 6 times more than the number in rural areas. Eighty-seven percent of personnel are employed either in urban areas or urban governorates: 43% in urban governorates, 23% in Lower Egypt and 21% in Upper Egypt. The remaining 12% are divided between the rural areas of Lower (7%) and Upper (5%) Egypt.

Table 2.6: Distribution of Personnel Working in Pharmacies by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|---------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Sales Persons | 39.9% | 10.5% | 25.5% | 5.2% | 18.9% | 60.2% |
| Cleaners | 45.5 | 5.3 | 16.0 | 4.8 | 28.3 | 29.5 |
| Cashiers | 55.3 | 5.3 | 26.3 | 5.3 | 7.9 | 6.0 |
| Secretaries | 33.3 | 16.7 | 33.3 | 0.0 | 16.7 | 1.9 |
| Guards | 44.4 | 0.0 | 22.2 | 11.1 | 22.2 | 1.4 |
| Other | 66.7 | 16.7 | 16.7 | 0.0 | 0.0 | 0.9 |
| Total | 42.7 | 8.7 | 22.7 | 5.1 | 20.9 | 100.0 |

III. Services Offered

Pharmacists reported dispensing medicine to an average of 327 customers per week. Customers come either with a prescription, without a prescription, or consult with the pharmacist who then prescribes medicine for them. Table 3.1 presents the average number of customers for each type per week by region. The average number of customers who come to the pharmacy with a prescription is slightly larger than those without a prescription, but the two are quite similar in each region. Approximately 16% of the average number of customers consult with the pharmacist and buy whatever he prescribes for them. This is most likely to happen in rural areas where 21% of pharmacy customers in Lower Egypt and 18% in Upper Egypt consult with the pharmacist, in comparison with 17% of customers in urban governorates, and 16% and 14% of customers in urban Lower and Upper Egypt, respectively.

Table 3.1: Average Number of Customers to whom Medicine is Dispensed

| <i>Region</i> | <i>Customers with Prescriptions</i> | <i>Customers without Prescriptions</i> | <i>Customers Consult with Pharmacist</i> | <i>Total Customers</i> |
|--------------------|-------------------------------------|--|--|------------------------|
| Urban Governorates | 123 | 112 | 47 | 282 |
| Lower Rural | 140 | 144 | 71 | 343 |
| Lower Urban | 162 | 150 | 64 | 412 |
| Upper Rural | 129 | 109 | 52 | 289 |
| Upper Urban | 150 | 135 | 46 | 329 |
| Total | 139 | 128 | 53 | 327 |

Sixty-three percent of all pharmacies in the sample prepare drugs, which are sold in the pharmacy. Rural Upper Egypt is an exception where only 29% of pharmacies in the region prepare drugs in-house. However, drugs prepared on the premises make up a very small percentage of total drugs sold: approximately 3% of total drugs sold are prepared on the premises as shown in Table 3.2.

Table 3.2: Drugs Prepared and Sold in Pharmacy

| <i>Region</i> | <i>Prepare and Sell Drugs in Pharmacy</i> | <i>Average Percentage of Sold Prepared Drugs</i> |
|--------------------|---|--|
| Urban Governorates | 70% | 3% |
| Lower Rural | 55 | 2 |
| Lower Urban | 65 | 4 |
| Upper Rural | 29 | 2 |
| Upper Urban | 64 | 4 |
| Total | 63 | 3 |

As well as dispensing drugs, pharmacies in Egypt also provide medical advice. Sixty-one percent of pharmacies sometimes advise clients to have specific laboratory or radiological investigations carried out. The distribution of pharmacies offering medical advice across regions is approximately uniform, with the exception of urban Lower Egypt where only 51% of pharmacists advise clients to have specific tests carried out (see Table 3.3). Pharmacists advise on average 10 clients per week to have certain tests, but this figure ranges from 6 to 15 clients by region. Approximately 33% of pharmacists who advise clients to have specific tests also recommended that they go to a specific place to have the tests done. Pharmacists in rural Upper Egypt were most likely and pharmacists in urban governorates were least likely to recommend a specific place for the tests.

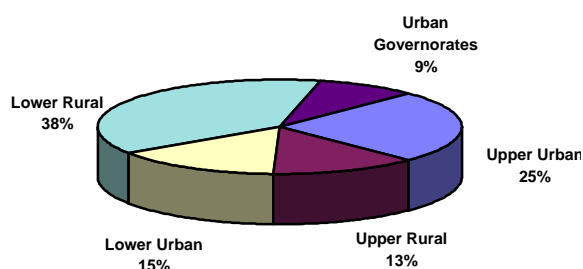
Table 3.3: Distribution of Pharmacists who Recommend Clients to Have Specific Tests by Region

| <i>Region</i> | <i>Advise Clients to Have Specific Tests</i> | <i>Average Number of Clients Directed to Have Specific Tests in last Week</i> | <i>Specific Place Recommended</i> |
|--------------------|--|---|-----------------------------------|
| Urban Governorates | 62% | 6 | 27% |
| Lower Rural | 66 | 15 | 37 |
| Lower Urban | 51 | 10 | 35 |
| Upper Rural | 64 | 14 | 56 |
| Upper Urban | 63 | 12 | 35 |
| Total | 61 | 10 | 33 |

IV. Multiple Employment

Ninety-one percent of pharmacists have only one job, 8% have two jobs and 1% have three jobs. The regional distribution of pharmacists with multiple employment is shown in Figure 4.1. All pharmacists with a third job are located in urban Upper Egypt.

Figure 4.1: Regional Distribution of Pharmacists with Second Job



Pharmacies and government institutions are the main employers of pharmacists with a second job. Those with a third job are equally distributed between pharmacies, hospitals and other institutions. Table 4.1 presents the percentage distribution of multiple employment by institution type.

Table 4.1: Percentage Distribution of Multiple Employment by Institution Type

| | <i>Second Job</i> | <i>Third Job</i> |
|----------------------------|-------------------|------------------|
| Pharmacy | 64% | 33.33% |
| Hospital/Public Clinic | 8 | 33.33 |
| Drug Manufacturing Company | 4 | - |
| Government Institution | 16 | - |
| Other | 8 | 33.33 |
| Total | 100 | 100 |

Table 4.2 shows the employment status of pharmacists by job. Eighty-seven percent of pharmacists in the sample are employers and managers¹ of the pharmacy in which they were interviewed. Fifty-six percent of pharmacists in the sample with a second job are employers and managers in that pharmacy as are 67% of the sample with a third job. The remainder are employees.

Table 4.2: Employment Status of Pharmacists by Job

| <i>Employment Status</i> | <i>Pharmacy</i> | <i>Second Job</i> | <i>Third Job</i> |
|---------------------------------|------------------------|--------------------------|-------------------------|
| Employer and Manager | 87% | 56% | 67% |
| Employee | 13 | 44 | 33 |
| Total | 100 | 100 | 100 |
| Frequency | N = 261 | N = 25 | N = 3 |

Table 4.3 presents the average number of hours worked per week in each job by region by the pharmacist interviewed. The average working day of a pharmacist is nine hours². This falls to five hours per day in the second job and four hours in the third job. Pharmacists work on average six days per week in the pharmacy in all regions. They report working five days per week in the second job in all regions except urban Lower Egypt where they work six days per week. All pharmacists with three jobs are located in urban Upper Egypt and all report working seven days per week in the third job.

Table 4.3: Average Number of Hours Worked by Pharmacists per Day by Region

| <i>Region</i> | <i>Pharmacy</i> | <i>Second Job</i> | <i>Third Job</i> |
|----------------------|------------------------|--------------------------|-------------------------|
| Urban Governorates | 8 | 6 | - |
| Lower Rural | 8 | 4 | - |
| Lower Urban | 10 | 4 | - |
| Upper Rural | 8 | 9 | - |
| Upper Urban | 8 | 5 | 4 |
| Total | 9 | 5 | 4 |

On average, pharmacists work 54 hours per week in the job at which they were interviewed as shown in Table 4.4. Those with a second job report working an average of 29 hours per week, while those with a third job work 28 hours per week. Eighteen percent of pharmacists with only two jobs reported working the same number of hours in both jobs, 41% reported working fewer hours in the second job, and 41% reported working more hours in the second job. One pharmacist with three jobs reported working the same number of hours in all three jobs. In terms of the hours worked, pharmacists with multiple employment regard the jobs other than the one where they were interviewed as their main job.

¹ Approximately 81% of pharmacists said they owned the pharmacy they were interviewed in and 6% were co-owners.

² Although the pharmacist works an average of 9 hours per day, the pharmacy is opened 11.67 hours per day with employees covering the time the pharmacist is not present in the pharmacy.

Table 4.4: Average Number of Hours Worked per Week by Region

| <i>Region</i> | <i>Pharmacy</i> | <i>Second Job</i> | <i>Third Job</i> |
|--------------------|-----------------|-------------------|------------------|
| Urban Governorates | 51 | 38 | - |
| Lower Rural | 52 | 24 | - |
| Lower Urban | 62 | 27 | - |
| Upper Rural | 55 | 45 | - |
| Upper Urban | 54 | 26 | 28 |
| Total | 54 | 29 | 28 |

V. Finance

The pharmacies in the sample reported spending a total of L.E. 252,352 per month on expenditures, excluding the cost of drugs. Eighty-six percent of total monthly expenditures is spent on the following categories: salaries (58%), miscellaneous items (14%) and utilities (14%). Rent, insurance and other items are the remaining sources of expenditure. Table 5.1 shows average monthly expenditure by item and region. It costs an average of L.E. 967 per month to run the pharmacy. In urban governorates and urban areas average operating costs are higher than rural areas, reflecting higher staff costs, utilities and miscellaneous expenditures.

Table 5.1: Average Expenditure by Item and Region (L.E.)

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|---------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Salaries | 808 | 287 | 488 | 381 | 618 | 611 |
| Insurance | 47 | 62 | 82 | 30 | 84 | 64 |
| Rent | 56 | 103 | 66 | 83 | 124 | 82 |
| Utilities | 174 | 56 | 125 | 62 | 145 | 137 |
| Miscellaneous | 170 | 78 | 140 | 98 | 145 | 143 |
| Other | 0 | 4 | 8 | 2 | 17 | 6 |
| Total | 1117 | 575 | 857 | 649 | 1060 | 967 |

Table 5.2 presents the average revenue from monthly sales by region. The sale of medications represents 86% of total revenue. At 14% of revenue, the sale of other goods represents a significant proportion of income that perhaps could be easily expanded. As expected with higher expenditures in urban areas and governorates, revenue is also higher in these areas than in rural areas. Although average revenue per month is L.E. 11,622 and average running costs per month are L.E. 967, without the cost of drugs we are unable to derive an estimate of profit per month for each pharmacy.

Table 5.2: Average Value of Sales per Month by Region (L.E.)

| <i>Region</i> | <i>Medications</i> | <i>Other Items</i> | <i>Total</i> |
|--------------------|--------------------|--------------------|--------------|
| Urban Governorates | 12430 | 2097 | 13843 |
| Lower Rural | 5969 | 974 | 7289 |
| Lower Urban | 9446 | 1768 | 11309 |
| Upper Rural | 8750 | 926 | 9699 |
| Upper Urban | 9602 | 1666 | 11462 |
| Total | 9925 | 1681 | 11622 |

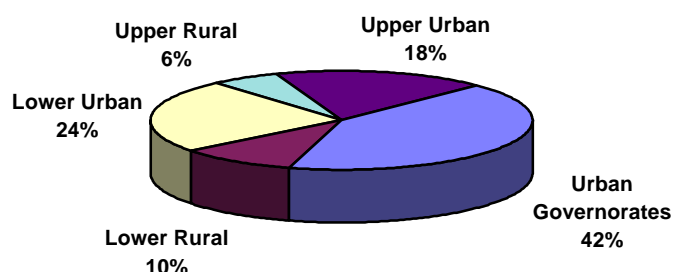
Pharmacists were asked how revenues in 1995 compared with the previous year. Thirty percent of pharmacies reported no change in sales, 45% saw a decrease in sales, while 18% had an increase in sales of drugs and medicines compared with the previous year. Five percent of pharmacies interviewed were opened that year and 2% did not know if there was any change in sales since the previous year.

Table 5.3: Changes in Revenue from the Previous Year by Region

| | No Change | Decreased | Increased | New Pharmacy | Don't Know | Total |
|--------------------|------------------|------------------|------------------|---------------------|-------------------|--------------|
| Urban Governorates | 39.7% | 40.7% | 29.8% | 58.3% | 50.0% | 39.5% |
| Lower Rural | 11.5 | 10.2 | 14.9 | 0.0 | 16.7 | 11.1 |
| Lower Urban | 19.2 | 20.3 | 23.4 | 8.3 | 0.0 | 19.5 |
| Upper Rural | 5.1 | 4.2 | 8.5 | 8.3 | 0.0 | 5.4 |
| Upper Urban | 24.4 | 24.6 | 23.4 | 25.0 | 33.3 | 24.5 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |

As well as selling drugs to the general public, many pharmacies also have contracts with organizations to provide drugs to their patients. Forty percent of pharmacies in the sample have such contracts with organizations. The location of those with contracts is shown in Figure 5.1. Unsurprisingly, the majority is located in urban areas or urban governorates. The pharmacists in the sample with contracts have a total of 203 contracts for the supply of drugs to patients of organizations. They are distributed as follows: 53% of contracts are with health insurance or government organizations, 41% are with public sector companies, 4% are with private sector companies and 2% are with Others.

Figure 5.1: Regional Distribution of Pharmacies with Contracts



VI. Quality

In order to obtain a measure of the quality of services provided, pharmacists were asked whether they could always provide the drugs that clients requested. Approximately 97% of pharmacies in the sample have not been able to provide drugs to somebody who needed them at sometime. Twenty-five percent of pharmacies always have a shortage of supply, while 52% sometimes face a scarcity of drugs. Shortages are more likely to be faced by pharmacies in urban areas or urban governorates as 26% report a constant shortage of drugs. Twenty-one percent of rural area pharmacies report having constant shortages. Table 6.1 presents the percentage distribution of pharmacies that experience shortages by how often they have drug shortages.

Table 6.1: Percentage Distribution of Pharmacies with Drug Shortages by Region

| | <i>Frequency of Drug Shortage</i> | | | <i>Total</i> |
|--|-----------------------------------|------------------|---------------|--------------|
| | <i>Scarcely</i> | <i>Sometimes</i> | <i>Always</i> | |
| Urban Governorates | 11% | 58% | 31% | 100% |
| Lower Rural | 33 | 48 | 19 | 100 |
| Lower Urban | 22 | 55 | 24 | 100 |
| Upper Rural | 36 | 43 | 21 | 100 |
| Upper Urban | 34 | 44 | 21 | 100 |
| Total | 22 | 52 | 25 | 100 |
| Number of Pharmacies by Frequency of Shortage | N = 57 | N = 133 | N = 64 | N=254 |

Table 6.2 presents the distribution of pharmacies by region according to the reasons why they encounter a shortage in the supply of drugs. More than one response was allowed to explain why they had a shortage of drugs. Eighty-eight percent of pharmacies that face shortages report this is due to difficulties in obtaining credit from suppliers. Unavailability of supply and other reasons are offered as explanations for shortages by 13% and 11% of pharmacies with shortages, respectively.

Table 6.2: Percentage Distribution of Pharmacies with Shortage of Drugs

| <i>Region</i> | <i>Difficult to Get Credit</i> | <i>Supply not Available</i> | <i>Other</i> | <i>Difficult to Get Permission from Pharmaceutical Company</i> |
|--------------------|--------------------------------|-----------------------------|--------------|--|
| Urban Governorates | 92% | 15% | 10% | 2% |
| Lower Rural | 89 | 0.4 | 15 | 0.4 |
| Lower Urban | 96 | 12 | 2 | - |
| Upper Rural | 71 | 21 | 21 | 14 |
| Upper Urban | 77 | 13 | 18 | - |
| Total | 88 | 13 | 11 | 2 |

Pharmacists were also asked what controls they imposed on the supply of drugs across the counter. On average 96% of pharmacies will not supply certain categories of drugs without a written prescription. Table 6.3 presents these categories and the frequency by region of pharmacies that will not supply the drugs without a written prescription. Hypnotic drugs and anti-depressants are the most tightly controlled drugs, as they will not be given out in 88% and 85% of pharmacies, respectively, without an appropriate prescription. Anti-diabetic drugs and other medicines are the least restricted drugs without prescriptions. Overall, it does not appear as if any region is particularly more stringent than others in providing the categories of drugs listed below without a written prescription.

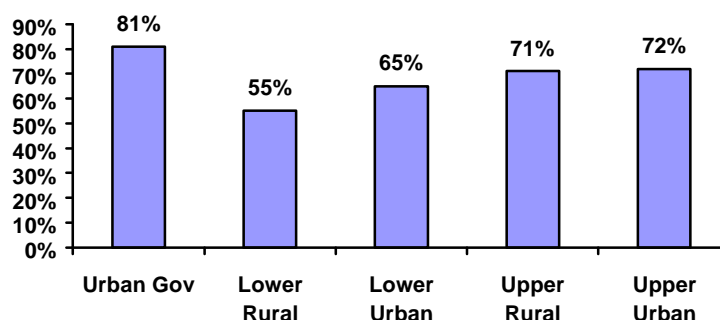
Table 6.3: Percentage Distribution of Pharmacy that do not Provide Certain Categories of Drugs Without Written Prescriptions

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Cardio-vascular | 15 | 31 | 29 | 29 | 25 | 23 |
| Anti-Depressants | 96 | 79 | 71 | 79 | 83 | 85 |
| Anti-Diabetic | 8 | 31 | 22 | 14 | 16 | 15 |
| Hypnotic Drugs | 96 | 86 | 88 | 93 | 75 | 88 |
| Cough Medicine | 55 | 72 | 57 | 50 | 39 | 53 |
| Other | 4 | 17 | 8 | 21 | 27 | 13 |

Seventy-two percent of pharmacies reported experiencing problems that affected the quality of service provided to clients. Urban-based pharmacies are more likely to have quality problems than pharmacies located in rural areas. Figure 6.1 shows the distribution of pharmacies that reported facing difficulties, which affect the quality of services they provide.

Shortages of certain drugs are the biggest problem encountered by those reporting problems affecting the quality of services provided. Location of the pharmacy and an overcrowding of pharmacies within a certain area are problems for 12% and 11% of pharmacies surveyed, respectively.

Figure 6.1: Percentage Distribution of Pharmacies Reporting Problems Affecting the Quality of Services



Certain solutions were suggested for improving the quality of services provided in pharmacies. Overall, pharmacies felt that external factors needed to change in order to improve quality, that is, 75% of the sample pharmacies suggested increasing the availability of drugs and 44% suggested reducing the price of drugs. Only 4% thought extended opening hours would increase the quality of services provided. The majority was satisfied with their staff as only 6% suggested improving the quality of staff. Nine percent felt that receiving guidelines in pharmacological services would help improve quality.

Table 6.4: Suggestion for Improving Quality of Services by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Percentage of Sample</i> |
|--|---------------------------|--------------------|--------------------|--------------------|--------------------|-----------------------------|
| Availability of Drugs | 40.1% | 11.7% | 21.3% | 3.6% | 23.4% | 75% |
| Reduce the Price of Medicine | 43.5 | 11.3 | 18.3 | 8.7 | 18.3 | 44 |
| Other | 25.9 | 16.7 | 18.5 | 3.7 | 35.2 | 21 |
| Receive Guidelines in Pharmacological Services | 47.8 | 8.7 | 26.1 | 8.7 | 8.7 | 9 |
| Improve Quality of Staff | 60.0 | 0.0 | 26.7 | 6.7 | 6.7 | 6 |
| Increase Doctors | 50.0 | 16.7 | 0.0 | 16.7 | 16.7 | 5 |
| Keep Facilities Open Longer | 40.0 | 0.0 | 20.0 | 10.0 | 30.0 | 4 |

Pharmacists were asked for their opinion whether the price control system had any impact on the income of the pharmacy. The sample is almost uniformly distributed in their opinions. However, slightly more pharmacists thought that it had a negative impact, followed by those who thought it had a positive impact.

Table 6.5: Impact of Price Control System by Region

| | <i>Positive Impact</i> | <i>Negative Impact</i> | <i>No Impact</i> | <i>Total</i> |
|--------------------|------------------------|------------------------|------------------|--------------|
| Urban Governorates | 37.9 | 32.0 | 30.1 | 39.5 |
| Lower Rural | 24.1 | 44.8 | 31.0 | 11.1 |
| Lower Urban | 27.5 | 35.3 | 37.3 | 19.5 |
| Upper Rural | 35.7 | 35.7 | 28.6 | 5.4 |
| Upper Urban | 37.5 | 40.6 | 21.9 | 24.5 |
| Total | 34.1 | 36.4 | 29.5 | 100 |

Dayas

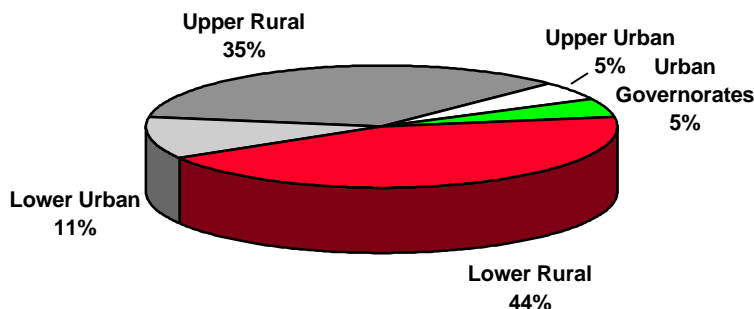
I. Introduction

A daya or traditional birth attendant is usually an older woman, who has had several children herself and has learned her profession by apprenticeship. Dayas are common in Egyptian villages, as well as in cities and towns. Official policies on the daya have changed over the years. In the 1940s, a formal training program was launched, and by 1950 more than 5,000 dayas had taken the course and been granted government permits. Then in 1969, no further permits were issued and daya activities were made illegal. In spite of this, it is estimated that dayas provided assistance for 49% of births in the mother's home (Egypt Demographic and Health Survey, 1995). Even when trained nurses are available to handle deliveries without charge, most village families prefer the daya.

II. Geographic Distribution

There are 132 dayas in the sample. The distribution by region is presented in Figure 2.1. Unlike physicians, the majority of dayas are located in rural areas: 44% of the sample are in rural Lower Egypt and 35% in rural Upper Egypt. The remaining 21% are distributed as follows: 5% are located in urban governorates, 5% in urban Upper Egypt and 11% in urban Lower Egypt.

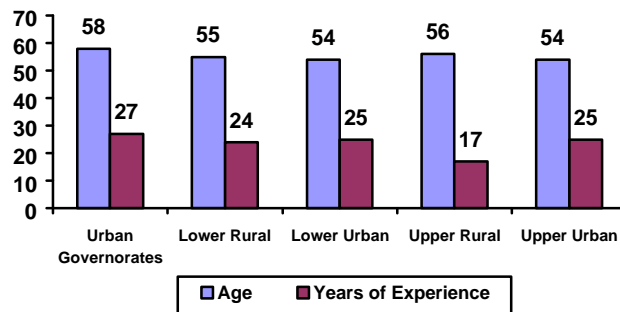
Figure 2.1: Distribution of Dayas by Region



III. Characteristics

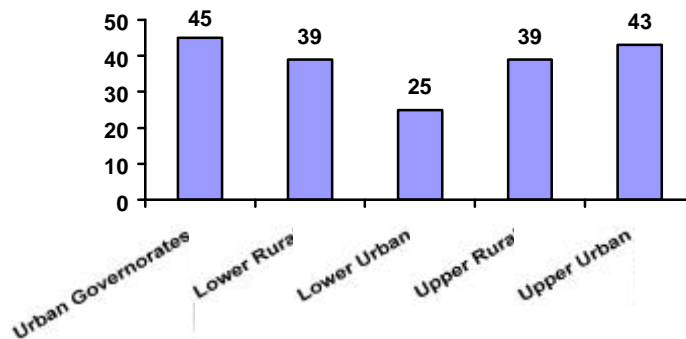
All birth attendants are female. The average age is 55 years, ranging from 54 years in urban areas of Lower and Upper Egypt to 58 years in urban governorates. They have an average of 22 years of experience working as a daya. Figure 3.1 presents the average age and years of experience by region.

Figure 3.1: Average Age and Years of Experience



Dayas are long term residents of their community, living for an average of 38 years in their current residence. This ranged from 25 years in urban Lower Egypt to 45 years in urban governorates.

Figure 3.2: Years in Current Residence by Region



Half of the sample is married and 44% are widowed, 3% are single and 3% are divorced.

Table 3.1: Marital Status of Dayas by Region

| | <i>Single</i> | <i>Married</i> | <i>Divorced</i> | <i>Widowed</i> | <i>Total</i> |
|--------------------|---------------|----------------|-----------------|----------------|--------------|
| Urban Governorates | 0% | 50% | 0% | 50% | 100% |
| Lower Rural | 3 | 52 | 2 | 43 | 100 |
| Lower Urban | 7 | 67 | 7 | 20 | 100 |
| Upper Rural | 2 | 39 | 4 | 54 | 100 |
| Upper Urban | 0 | 71 | 0 | 29 | 100 |
| Total | 3 | 50 | 3 | 44 | 100 |

The educational status of dayas is very low, as 70% of the sample are illiterate. The lowest rates of illiteracy occur in Lower Egypt, and no one in the sample attended university. Eleven percent of the sample attended secondary school or higher, while 12% report reading and writing as their

highest educational status. Three percent attended primary school and 4% went to preparatory school. Table 3.2 presents educational status by region.

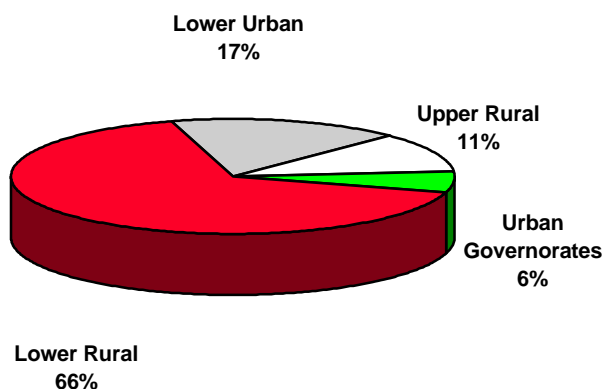
Table 3.2: Educational Status of Dayas by Region

| | <i>Illiterate</i> | <i>Read and Write</i> | <i>Primary</i> | <i>Preparatory</i> | <i>Secondary and Above</i> | <i>Total</i> |
|--------------------|-------------------|-----------------------|----------------|--------------------|----------------------------|--------------|
| Urban Governorates | 83% | 0% | 0% | 0% | 17% | 100% |
| Lower Rural | 62 | 9 | 7 | 5 | 17 | 100 |
| Lower Urban | 53 | 27 | 0 | 7 | 13 | 100 |
| Upper Rural | 83 | 13 | 0 | 2 | 2 | 100 |
| Upper Urban | 86 | 14 | 0 | 0 | 0 | 100 |
| Total | 70 | 12 | 3 | 4 | 11 | 100 |

IV. Training Programs

Fourteen percent of the sample has a certificate in health care. The distribution of dayas with certificates by region is shown in Figure 4.1. The majority of dayas with certificates in health care are located in Lower Egypt, particularly in rural areas. On average, dayas have had these certificates for 21 years. This ranges from 18 years in urban governorates to 29 years in urban Lower Egypt. In rural Lower Egypt dayas have had their certificates for an average of 19 years, while those in rural Upper Egypt have had their certificate for 20 years.

Figure 4.1: Distribution of Dayas with Certificates by Region



The majority of dayas learned their job skills in a relatively informal setting. Mothers trained 29% of the sample and 25% were trained by a colleague. Mothers-in-law trained 12% of the sample. Only 11% received their training in a formal setting, while 8% learned their trade from other relatives or friends. People other than those listed above trained 16% of the dayas in the sample. The distribution by region of trainers is given in Table 4.1.

Table 4.1: Trainer of Birth Attendant by Region

| | <i>Mother</i> | <i>Mother-in-Law</i> | <i>Other Relatives/Friends</i> | <i>Nursing School</i> | <i>Colleague</i> | <i>Other</i> | <i>Total</i> |
|--------------------|---------------|----------------------|--------------------------------|-----------------------|------------------|--------------|--------------|
| Urban Governorates | 17% | 17% | 17% | 17% | 33% | 0% | 100% |
| Lower Rural | 24 | 16 | 3 | 16 | 21 | 21 | 100 |
| Lower Urban | 20 | 7 | 0 | 20 | 40 | 13 | 100 |
| Upper Rural | 37 | 4 | 15 | 2 | 26 | 15 | 100 |
| Upper Urban | 43 | 43 | 0 | 0 | 14 | 0 | 100 |
| Total | 29 | 12 | 8 | 11 | 25 | 16 | 100 |

Sixty-seven percent of the sample had some training in antenatal, natal and post-natal care. Dayas in rural Lower Egypt and Upper Egypt were most likely to have training in these 3 areas as shown in Table 4.2.

Table 4.2: Percentage of Dayas with Ante-Natal, Natal and Post-Natal Training

| | <i>Percentage of Ante-Natal, Natal and Post-Natal Training</i> |
|--------------------|--|
| Urban Governorates | 33 |
| Lower Rural | 78 |
| Lower Urban | 53 |
| Upper Rural | 65 |
| Upper Urban | 57 |
| Total | 67 |

On average dayas attended 3 training programs since beginning their work, although this ranged from 2 to 6 programs.

Table 4.3: Average Number of Programs Attended Since Commencing to Work as a Daya

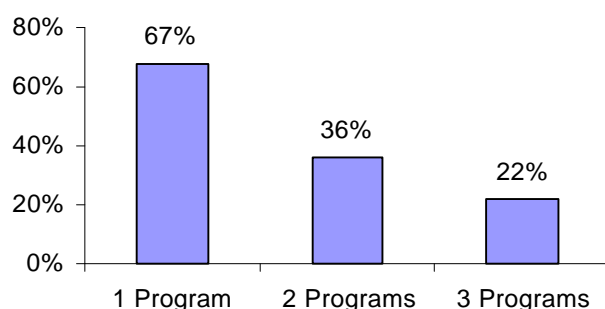
| | <i>Mean Number of Programs Attended Since Beginning to Work</i> |
|--------------------|---|
| Urban Governorates | 3 |
| Lower Rural | 3 |
| Lower Urban | 4 |
| Upper Rural | 2 |
| Upper Urban | 6 |
| Total | 3 |

Dayas participated in an average of 2 training programs in the last 5 years. The most programs were attended by dayas in urban Upper Egypt, while those in Lower Egypt attended the least. On average a program lasted 30 days. The shortest courses took an average of 13 days in urban Lower Egypt and rural Upper Egypt. The longest courses were an average of 45 days in rural Lower Egypt.

Table 4.4: Average Number of Training Programs in the Last 5 Years

| | <i>Average Number of Training Programs in Last 5 Years</i> | <i>Average Duration</i> |
|--------------------|--|-------------------------|
| Urban Governorates | 3 | 38 |
| Lower Rural | 1 | 45 |
| Lower Urban | 1 | 13 |
| Upper Rural | 2 | 13 |
| Upper Urban | 4 | 29 |
| Total | 2 | 30 |

To obtain more information on the occupational training of dayas, they were asked specific questions about the last three training programs in health services they had attended. The most recent program was an average 4 years ago, the second most recent was 5 years ago, and the third most recent training was 7 years ago. The distribution of dayas by the reported number of training programs attended is shown in Figure 4.2.

Figure 4.2: Distribution of Dayas by Reported Number of Training Programs Attended

Delivery was the most frequently covered topic in all programs. Family planning and child healthcare were most frequently covered in the second most recent program, but dropped slightly in the most recent program. Table 4.5 presents the distribution of topics covered by program¹.

Table 4.5: Topics Covered by Training Program

| | <i>Most Recent Program</i> | <i>Second Most Recent Program</i> | <i>Third Most Recent Program</i> |
|-------------------|----------------------------|-----------------------------------|----------------------------------|
| Delivery | 81% | 81% | 79% |
| Family Planning | 19 | 21 | 14 |
| Child Health Care | 10 | 13 | 3 |
| Other | 12 | 6 | 7 |

Most programs had both theoretical and practical elements: 69% of the last program attended, 60% of the second most recent program and 72% of the third most recent program had both elements. Two percent of the most recent programs attended had only practical components. All other programs were either purely theoretical or had a mixture of theoretical and practical components as shown in Table 4.6.

¹ Percentages were calculated based on the number of dayas who reported attending each program.

Table 4.6: Nature of Training

| | <i>Most Recent Program</i> | <i>Second Most Recent Program</i> | <i>Third Most Recent Program</i> |
|-------------|----------------------------|-----------------------------------|----------------------------------|
| Theoretical | 29% | 40% | 28% |
| Practical | 2 | - | - |
| Both | 69 | 60 | 72% |

Dayas on the most recent training program were more likely to get a delivery kit as part of their training than in previous courses as shown in Table 4.7.

Table 4.7: Distribution of Delivery Kit by Program

| | <i>Most Recent Program</i> | <i>Second Most Recent Program</i> | <i>Third Most Recent Program</i> |
|----------------|----------------------------|-----------------------------------|----------------------------------|
| Yes | 54% | 29% | 45% |
| No | 27 | 54 | 24 |
| Not Applicable | 19 | 17 | 20 |
| Total | 100 | 100 | 100 |

The most recent course lasted an average of 30 days. Previous courses tended to be much shorter in duration: 12 days for the second recent program and 15 days for the third recent program.

Table 4.8: Duration (Days) of Training Programs

| | <i>Most Recent Program</i> | <i>Second Most Recent Program</i> | <i>Third Most Recent Program</i> |
|--------------------|----------------------------|-----------------------------------|----------------------------------|
| Urban Governorates | 12 | 30 | 21 |
| Lower Rural | 52 | 17 | 22 |
| Lower Urban | 11 | 8 | 16 |
| Upper Rural | 7 | 6 | 7 |
| Upper Urban | 7 | 7 | 13 |
| Total | 30 | 12 | 15 |

The location of training programs is fairly evenly distributed between government hospitals, maternal and child health care centers and others. Maternal and child health care centers have become the main training location as the percentage has grown from 31% of the third most recent program to 39% of the most recent program.

Table 4.9: Location of Training Programs

| | <i>Most Recent Program</i> | <i>Second Most Recent Program</i> | <i>Third Most Recent Program</i> |
|-------------------------------------|----------------------------|-----------------------------------|----------------------------------|
| Government Hospital | 29.2% | 33.3% | 24.2% |
| Maternal & Child Health Care Center | 39.3 | 33.3 | 31.0 |
| Other | 31.5 | 33.3 | 44.8 |

V. Services Offered and Patient Visits

All dayas perform deliveries. Eighty-three percent provide post-natal care, but only 54% provide pre-natal care. The other services provided by a significant number of dayas are intramuscular injections (20% of sample), intravenous injections (15%) and first aid measures (11%). Table 5.1 presents the distribution of dayas by region according to the services provided.

Table 5.1: Percentage Distribution of Services Provided by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Delivery | 100 | 100 | 100 | 100 | 100 | 100 |
| Post-Natal Care | 33 | 83 | 80 | 89 | 100 | 83 |
| Pre-Natal Care | 67 | 64 | 60 | 37 | 57 | 54 |
| Intramuscular Injections | 33 | 28 | 33 | 7 | 0 | 20 |
| Intravenous Injections | 17 | 22 | 20 | 7 | 0 | 15 |
| First Aid Measure | 17 | 14 | 7 | 11 | 0 | 11 |
| ORT | 17 | 7 | 0 | 4 | 0 | 5 |
| Circumcision | 0 | 0 | 7 | 7 | 14 | 4 |
| Other | 0 | 9 | 0 | 0 | 0 | 4 |
| Immunization | 0 | 2 | 0 | 7 | 0 | 3 |

Pre-natal care is not a standard service provided by dayas as only 54% usually provide such care. On average, the dayas in the sample providing pre-natal visits reported having 6 pre-natal visits with expecting mothers. Mothers in rural Upper Egypt have 9 pre-natal visits, 5 in rural Lower Egypt and 4 in all other areas.

Table 5.2: Number of Pre-Natal Visits to Dayas Usually Providing Pre-Natal Services by Region

| | <i>Average Number of Pre-Natal Visits</i> |
|--------------------|---|
| Urban Governorates | 4 |
| Lower Rural | 5 |
| Lower Urban | 4 |
| Upper Rural | 9 |
| Upper Urban | 4 |
| Total | 6 |

Table 5.3 presents the various procedures carried out at pre-natal check-ups. Nutritional information, health education and a general exam are the most common procedures.

Table 5.3: Check-up Procedures by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|-----------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Nutritional Education | 50% | 40% | 33% | 17% | 14% | 30% |
| Health Education | 17 | 38 | 20 | 22 | 14 | 28 |
| General Exam | 50 | 14 | 13 | 22 | 43 | 20 |
| Obstetric Exam | 33 | 17 | - | 13 | 29 | 15 |
| Other | - | 12 | 20 | 4 | - | 9 |
| Urine Analysis | - | 14 | - | - | - | 6 |
| Chest Exam | - | 9 | - | 4 | - | 4 |
| Weight | - | 9 | - | - | - | 4 |
| Blood Pressure | - | 5 | - | - | - | 2 |
| Blood Picture | - | 2 | - | - | - | 1 |

Over half the dayas surveyed report finding no complications with some patients at pre-natal checkups. The most commonly reported complications are the position of the baby, edema and bleeding. The least common are anemia, diabetes and pre-eclampsia. The distribution of dayas according to the different types of complications found at check-ups is given in Table 5.4.

Table 5.4: Percentage of Dayas Finding Complications at Check-Ups by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|----------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| No Problems | 67 | 64 | 60 | 37 | 57 | 54 |
| Position of Baby | 33 | 19 | 13 | 15 | 57 | 20 |
| Edema | 33 | 26 | 13 | 9 | 14 | 18 |
| Bleeding | 17 | 17 | 20 | 13 | 0 | 15 |
| Early Break of Water | 0 | 16 | 7 | 9 | 14 | 11 |
| Severe Colic | 17 | 14 | 13 | 4 | 0 | 10 |
| Severe Vomiting | 0 | 9 | 0 | 9 | 0 | 7 |
| Other | 0 | 9 | 20 | 2 | 0 | 7 |
| High Blood Pressure | 0 | 9 | 7 | 4 | 0 | 6 |
| Anemia | 0 | 7 | 0 | 4 | 14 | 5 |
| Pre-eclampsia | 17 | 7 | 0 | 0 | 0 | 4 |
| Cardiac Arrest | 0 | 2 | 0 | 2 | 0 | 2 |
| Diabetes | 0 | 2 | 0 | 2 | 0 | 2 |

Sixty-three percent of dayas who reported finding complications at check-ups refer their patients to a physician, while the remaining 37% send them to a hospital. Approximately 23% of dayas referring patients to a physician or hospital always or sometimes write a referral report. It is not surprising that so few prepare reports, as 70% of the sample are illiterate. However, 82% of dayas check to see whether the referred patient actually visited the physician or hospital. On average 7 patients were referred in the 3 months prior to the survey.

Table 5.5: Percentage of Dayas Referring Patients with Complications

| | <i>Refer to Doctor</i> | <i>Refer to Hospital</i> |
|--------------------|------------------------|--------------------------|
| Urban Governorates | 17% | 50% |
| Lower Rural | 40 | 24 |
| Lower Urban | 40 | 20 |
| Upper Rural | 26 | 11 |
| Upper Urban | 43 | 14 |
| Total | 34 | 20 |

On average 4 patients were referred to a physician or hospital in the last year. This ranged from 3 patients in urban governorates to 6 in urban Upper Egypt. Dayas in rural and urban Lower Egypt referred an average of 4 patients per year, while dayas in rural Upper Egypt sent an average of 5 patients to physicians or hospitals.

Table 5.6 shows the dayas requests to families for preparations made before delivery. The most common request is for thread, scissors and disinfectant. The least common requests are for a knife, bed sheets or other.

Table 5.6: Requests to Family Before Delivery by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|----------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Threads | 50 | 76 | 80 | 89 | 57 | 79 |
| Scissors | 100 | 86 | 67 | 72 | 71 | 79 |
| Disinfectant | 67 | 86 | 87 | 54 | 71 | 73 |
| Hot Water | 67 | 62 | 53 | 72 | 57 | 64 |
| Macintosh | 50 | 67 | 67 | 46 | 57 | 58 |
| Soap | 67 | 59 | 40 | 57 | 57 | 56 |
| Cotton | 50 | 62 | 60 | 43 | 0 | 52 |
| Gloves | 33 | 57 | 40 | 17 | 29 | 39 |
| Bed Sheets | 0 | 47 | 40 | 33 | 29 | 38 |
| Other | 17 | 43 | 40 | 33 | 29 | 37 |
| Knife or Blade | 0 | 12 | 20 | 39 | 86 | 26 |

Nearly all dayas wash their hands and arms with soap and water prior to the delivery. Approximately three-quarters of the sample boil and sterilize their instruments. Almost half of the sample prepares water with antiseptic for later use.

Table 5.7: Preparation Procedures by Daya Before Delivery by Region

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Wash Hands & Arms | 100 | 98 | 100 | 100 | 100 | 99 |
| Boil and Sterilize Instruments | 33 | 79 | 60 | 72 | 71 | 72 |
| Prepare Water with Antiseptic | 83 | 53 | 33 | 39 | 71 | 48 |
| Wear Gloves | 0 | 59 | 53 | 13 | 29 | 38 |
| Have Enough Cotton | 33 | 28 | 27 | 26 | 29 | 27 |
| Other | 0 | 12 | 13 | 7 | 0 | 9 |

The average maximum number of children delivered in any of the 12 months prior to the survey, was 9, the least was 3. Upper Egypt had the highest average number of deliveries performed by dayas in any month, while urban governorates and urban Lower Egypt had the lowest. The average number of deliveries in the last year was 46 normal births and 5 difficult births. Again, the average number of births, both normal and difficult, were highest in Upper Egypt. Table 5.8 presents the above measures by region.

Table 5.8: Summary of Number of Deliveries per Month and per Year by Region

| | <i>Any Month Past Year</i> | | <i>Deliveries Last Year</i> | |
|--------------------|---------------------------------|-----------------------------------|-----------------------------|-----------------------------|
| | <i>Max Number of Deliveries</i> | <i>Least Number of Deliveries</i> | <i>Normal Deliveries</i> | <i>Difficult Deliveries</i> |
| Urban Governorates | 6 | 1 | 26 | 3 |
| Lower Rural | 8 | 3 | 40 | 4 |
| Lower Urban | 5 | 1 | 25 | 4 |
| Upper Rural | 12 | 3 | 61 | 5 |
| Upper Urban | 11 | 4 | 63 | 7 |
| Total | 9 | 3 | 46 | 5 |

Ninety-five percent of the dayas interviewed follow up on their patients after the delivery with an average of 4.63 visits.

Table 5.9: Follow-up Visits by Region

| | <i>Percentage of Dayas That Follow-up Patients</i> | <i>Average Number of Visits After Delivery</i> |
|--------------------|--|--|
| Urban Governorates | 50 | 2.67 |
| Lower Rural | 100 | 4.57 |
| Lower Urban | 93 | 4.29 |
| Upper Rural | 96 | 4.84 |
| Upper Urban | 100 | 5.29 |
| Total | 95 | 4.63 |

If problems arise at any of the follow-up meetings the patient is most likely to be referred to a physician as shown in Table 5.10². In some cases, dayas will give advice (5%) or treat the condition themselves (8%).

Table 5.10: Procedures followed if Problems Arise at Follow-up by Region

| | <i>Give Advice</i> | <i>Treat Yourself</i> | <i>Refer to Doctor</i> | <i>Refer to Hospital</i> | <i>Others</i> |
|--------------------|--------------------|-----------------------|------------------------|--------------------------|---------------|
| Urban Governorates | 17% | 0% | 33% | 17% | 0% |
| Lower Rural | 5 | 10 | 91 | 21 | 0 |
| Lower Urban | 7 | 7 | 80 | 20 | 0 |
| Upper Rural | 2 | 4 | 85 | 17 | 2 |
| Upper Urban | 0 | 14 | 71 | 43 | 0 |
| Total | 5 | 8 | 84 | 20 | 1 |

As dayas provide a significant amount of reproductive health care, they were asked about their knowledge of family planning methods. Table 5.11 lists different methods of family planning and

² More than one response is allowed.

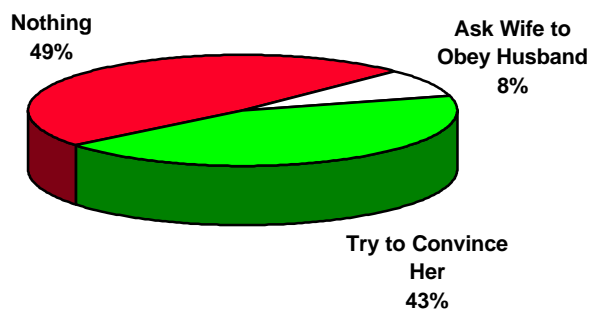
the distribution of dayas that immediately recognized these methods. The most familiar methods of family planning were the contraceptive pill and the IUD. The least familiar methods were male sterilization and withdrawal. All methods were known in rural Lower Egypt. In contrast, male and female sterilization and the withdrawal method were not immediately known by any daya in Upper Egypt or urban Lower Egypt.

Table 5.11: Contraceptives Known by Dayas

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> |
|--------------------------|-------------------------------|------------------------|------------------------|------------------------|------------------------|
| Pill | 83% | 93% | 100% | 96% | 100% |
| IUD | 83 | 95 | 100 | 93 | 100 |
| Diaphragm | 33 | 22 | 7 | 7 | 14 |
| Condom | 33 | 47 | 47 | 15 | 14 |
| Norplant | 67 | 16 | 13 | 4 | 14 |
| Injections | 67 | 71 | 60 | 48 | 71 |
| Foam Tablets | - | 26 | 13 | 9 | 14 |
| Female Sterilization | 17 | 14 | - | - | - |
| Male Sterilization | - | 7 | - | - | - |
| Withdrawal | - | 10 | - | - | - |
| Rhythm | 17 | 12 | - | 2 | - |
| Prolonged Breast Feeding | 33 | 10 | 7 | 7 | 14 |

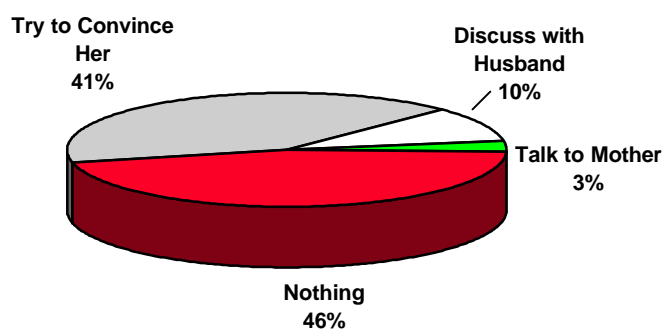
Approximately a fifth of the sample of dayas never advise mothers on family planning after the birth. Seventy-one percent sometimes advise mothers, while 10% always advise on family planning methods. Fifty-five percent of dayas giving advice on family planning will help the woman to select a suitable method for her. In some cases the husband will object to his wife using family planning methods. If this is the case, 50% of dayas will do nothing, 42% will attempt to discuss the matter with the husband, and the remaining 8% will tell the wife to obey her husband.

Figure 5.1: Procedure if Husband Objects to Wife Using Family Planning



If the situation is the other way around, in that the wife does not want to use family planning methods, nearly half of the sample will do nothing. 41% will try to convince her to use some method of family planning and the remaining will talk with her husband or her mother.

Figure 5.2: Procedure if Wife Objects to Using Family Planning



VI. Income

The dayas were asked what form of payment they accept for their services. Table 6.1 shows the distribution of acceptable payment methods by region. The majority (69%) accepts cash only. Three percent accept full payment in goods for services received, while 22% accept a

combination of cash and goods. Five percent of the sample declared that they do not charge for their services and 1% refused to answer questions about their income.

Table 6.1: Distribution of Payment Methods by Region

| | <i>Free</i> | <i>Cash</i> | <i>Goods</i> | <i>Cash & Goods</i> | <i>Refuse</i> |
|--------------------|-------------|-------------|--------------|-------------------------|---------------|
| Urban Governorates | 0 | 100 | 0 | 0 | 0 |
| Lower Rural | 5 | 78 | 2 | 16 | 0 |
| Lower Urban | 20 | 67 | 0 | 7 | 7 |
| Upper Rural | 2 | 50 | 7 | 41 | 0 |
| Upper Urban | 0 | 100 | 0 | 0 | 0 |
| Total | 5 | 69 | 3 | 22 | 1 |

A fixed fee per service is not common amongst dayas. Sixty-eight percent set their fee according to the economic condition of their client. All dayas in urban governorates set fees in this way and it is also relatively common in Upper Egypt. Twenty-four percent allow the client to decide the fee. Dayas in rural Lower Egypt and urban Upper Egypt are most likely to let clients decide their fee. Two percent use other methods to determine the fee charged. Table 6.2 shows the distribution by region of how fees are determined.

Table 6.2: Distribution of How Fee is Set

| | <i>Free</i> | <i>Client's Decision</i> | <i>Economic Condition of Client</i> | <i>Other</i> | <i>Refuse</i> |
|--------------------|-------------|--------------------------|-------------------------------------|--------------|---------------|
| Urban Governorates | 0 | 0 | 100 | 0 | 0 |
| Lower Rural | 5 | 34 | 59 | 2 | 0 |
| Lower Urban | 20 | 20 | 53 | 0 | 7 |
| Upper Rural | 2 | 15 | 80 | 2 | 0 |
| Upper Urban | 0 | 29 | 71 | 0 | 0 |
| Total | 5 | 24 | 68 | 2 | 1 |

The average lowest and highest fee received³ is presented in Table 6.3 by region. The highest cash fees were earned by dayas in urban governorates and the lowest by dayas in urban Upper Egypt. Goods are accepted as a method of payment in rural areas only, but their money value is very little.

Table 6.3: Average Lowest and Highest Fee Received by Payment Method and Region (L.E.)

| | <i>Cash</i> | | <i>Goods</i> | | <i>Total</i> | |
|--------------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | <i>Lowest</i> | <i>Highest</i> | <i>Lowest</i> | <i>Highest</i> | <i>Lowest</i> | <i>Highest</i> |
| Urban Governorates | 12 | 32 | 0 | 0 | 12 | 32 |
| Lower Rural | 5 | 14 | 1 | 2 | 6 | 16 |
| Lower Urban | 6 | 18 | 0 | 0 | 6 | 18 |
| Upper Rural | 5 | 15 | 2 | 9 | 7 | 24 |
| Upper Urban | 4 | 16 | 0 | 0 | 4 | 16 |
| Total | 5 | 16 | 1 | 4 | 6 | 20 |

³ The interviewer determined the money value of goods received.

Although no specific questions were asked about the exact fee charged, dayas were asked to report the income per month earned from deliveries and other work and the total income received. There were no replies to income received from other work. Table 6.4 presents the average income from deliveries and total income per month. The reported average monthly income from deliveries is very low at L.E. 38, as is the average total monthly income of L.E. 66. Dayas in urban Lower Egypt and urban governorates have the highest average reported monthly income. While the majority of income is derived from deliveries for dayas in urban governorates, the majority of income for dayas in urban Lower Egypt is derived from other work.

Table 6.4: Average Income Earned per Month by Region (L.E.)

| | <i>Deliveries</i> | <i>Total</i> |
|--------------------|--------------------------|---------------------|
| Urban Governorates | 71 | 83 |
| Lower Rural | 27 | 65 |
| Lower Urban | 26 | 85 |
| Upper Rural | 50 | 59 |
| Upper Urban | 50 | 72 |
| Total | 38 | 66 |

VII. Quality

Relative to the previous year, 61% of dayas report a falling trend in the number of pregnant women. Dayas reporting an increasing trend tended to be located in rural areas as shown in Table 7.1. No change in the trend of pregnant women was reported by 17% of the sample.

Table 7.1: Trend in Number of Pregnant Women Relative to Previous Year

| | <i>No Change</i> | <i>Increased</i> | <i>Decreased</i> |
|--------------------|-------------------------|-------------------------|-------------------------|
| Urban Governorates | 17% | 17% | 67% |
| Lower Rural | 12 | 16 | 72 |
| Lower Urban | 20 | 0 | 80 |
| Upper Rural | 17 | 17 | 17 |
| Upper Urban | 57 | 43 | - |
| Total | 17 | 21 | 61 |

The reported satisfaction rate for dayas was very high at 74%. However, amongst those presently dissatisfied, most reported that being granted permission to have a private practice would increase their satisfaction. Provision of proper training and other reasons were less popular suggestions to increase satisfaction as shown in Table 7.2.

Table 7.2: Satisfaction with Job and Ways to Improve Satisfaction

| | <i>Satisfied Now</i> | <i>Permission for Private Practice</i> | <i>Provision of Proper Training</i> | <i>Other</i> |
|--------------------|-----------------------------|---|--|---------------------|
| Urban Governorates | 67% | 33% | - | - |
| Lower Rural | 74 | 14 | 14 | 4 |
| Lower Urban | 73 | 20 | 13 | 2 |
| Upper Rural | 17 | 17 | 17 | 3 |
| Upper Urban | 86 | 29 | - | - |
| Total | 74 | 20 | 8 | 9 |

As part of their post-natal care program many dayas provide advice to mothers on how to care for their child. The information provided gives some insight into the quality of care provided by

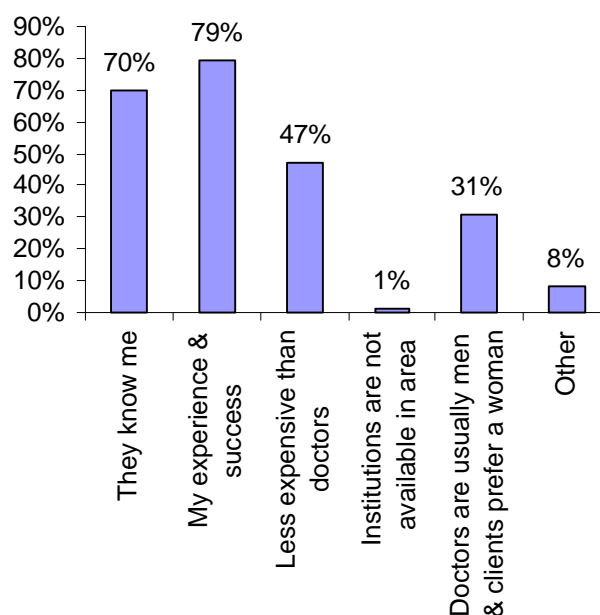
dayas. The most common advice given is how to clean the child and how and when to breast-feed. However, only 72% and 70% of dayas, respectively, give such advice. Less than half the dayas give advice to the mother about her own hygiene and the importance of the mother's nutrition after birth. Only 17% of dayas give advice on immunization procedures for the child. Table 7.3 shows the percentage of dayas in each region offering the above and other advice.

Table 7.3: Advice of Delivery Woman to New Mothers

| | <i>Urban Governorates</i> | <i>Lower Rural</i> | <i>Lower Urban</i> | <i>Upper Rural</i> | <i>Upper Urban</i> | <i>Total</i> |
|--------------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| Cleanliness of Child | 67% | 67% | 60% | 80% | 86% | 72% |
| Breast-feeding the Child | 83 | 67 | 73 | 72 | 57 | 70 |
| Advice for Mother | 33 | 72 | 33 | 22 | 43 | 47 |
| Nutrition of the Mother | 17 | 53 | 53 | 26 | 14 | 40 |
| Immunization of Child | 17 | 26 | 13 | 9 | - | 17 |
| Circumcision of Male | 17 | 10 | 0 | 9 | 14 | 9 |
| Treatment of Diarrhea | 17 | 12 | 7 | 7 | - | 9 |
| Other | - | 2 | 7 | 2 | - | 2 |

Seventy-nine percent of dayas feel that their experience and success is why women come to them for help with delivering their baby. Other popular reasons are that the women know them and that they are less expensive than having a physician deliver the baby. Only 1% of the sample feels that women have no choice but to use a daya due to a lack of medical facilities in the vicinity. Figure 7.1 shows the percentage of dayas according to why they think women come to them for help in delivering.

Figure 7.1: Dayas' Perceptions of Why Patients Choose Them



Other Health Services Providers

I. Introduction

The Egypt Health Services Providers survey included an investigation of traditional healers and other non-physicians who provide health care to the public. They are mainly unlicensed providers who are officially not allowed to operate, but who nevertheless provide a significant amount of health care. Due to their unofficial status, it was very difficult to get these health providers to participate in the survey. The resulting sample size is very small with 80 health services providers from urban governorates and urban and rural regions of Upper and Lower Egypt. Therefore this report should be viewed as a case study, rather than a comprehensive national analysis of these health services providers. Ninety-eight percent of the sample was interviewed in the health provider's house and 2% were interviewed at their place of work

II. Geographic Distribution

The health services providers interviewed were mostly located in rural areas: 64% were in rural Lower Egypt and 19% were in rural Upper Egypt, in comparison with 5% both in urban governorates and urban Upper Egypt and 7% in urban Lower Egypt. All providers live in a city or town in the same governorate where they practice.

III. Characteristics

This section examines some general characteristics, such as age and gender, of traditional health care providers, and the occupational training and background of the sample.

3.1 General Characteristics

Unlike physicians in private clinics and institutions, the majority of traditional health services providers are female.¹ In urban Lower Egypt there are no male providers and in all other regions of Egypt there are at least as many female providers, if not more, as there are male providers. The average age of a traditional health service provider is 38 years: 46 years for males and 31 years for females. Male providers are significantly older than their female counterparts. This probably reflects a decline in males entering these fields. On average, a provider has been living in their current residence, where most practice, for 24 years. Again, the average is much higher for males at 40 years than for females at 16 years.

¹ This is probably due to the fact that female providers were more willing to participate in the survey than their male counterparts. It is widely accepted that there are more male than female providers on a national level.

Table 3.11: General Characteristics of Providers by Gender and Region

| | <i>Distribution of Sample</i> | <i>Average Age</i> | <i>Average Number of Years in Residence</i> |
|--------------------|-------------------------------|--------------------|---|
| <i>Male</i> | <i>Number</i> | <i>Number</i> | |
| Urban Governorates | 1 | 35 | 21 |
| Lower Rural | 21 | 45 | 38 |
| Lower Urban | 0 | - | - |
| Upper Rural | 12 | 46 | 29 |
| Upper Urban | 2 | 51 | 40 |
| Total | 36 | 46 | 35 |
| <i>Female</i> | | | |
| Urban Governorates | 3 | 41 | 34 |
| Lower Rural | 30 | 29 | 13 |
| Lower Urban | 6 | 37 | 24 |
| Upper Rural | 3 | 34 | 20 |
| Upper Urban | 2 | 32 | 13 |
| Total | 44 | 31 | 16 |
| Total | | | |
| Urban Governorates | 4 | 40 | 30 |
| Lower Rural | 51 | 36 | 23 |
| Lower Urban | 6 | 37 | 24 |
| Upper Rural | 15 | 44 | 27 |
| Upper Urban | 4 | 42 | 26 |
| Total | 80 | 38 | 24 |

Eighty-four percent of the sample are married, 10% are single, 2.5% are Katb Kitab, 2.5% are widowed and 1% are divorced. Table 3.12 shows the highest educational level attained by the sample. None of the providers had attained a degree or attended a university for any period of time. Forty-three percent of the sample attended secondary school and/or occupational training. Providers in urban areas were more likely to have attended primary or secondary school than providers in rural areas were. Nineteen percent of the sample are illiterate and are most likely to be male and living in a rural area. In the sample, females are more likely to have attended preparatory or secondary school than their male counterparts.

Table 3.12: Highest Educational Level Attained by Region

| | <i>Illiterate</i> | <i>Read & Write</i> | <i>Primary</i> | <i>Preparatory</i> | <i>Secondary - above Secondary</i> | <i>Total</i> |
|---------------|-------------------|-------------------------|----------------|--------------------|------------------------------------|--------------|
| Male | 25 | 33 | 22 | 3 | 17 | 100 |
| Female | 14 | 5 | 5 | 14 | 64 | 100 |
| Total | 19 | 18 | 13 | 9 | 43 | 100 |
| Urban | 7 | 7 | 29 | 0 | 57 | 100 |
| Rural | 21 | 20 | 9 | 11 | 39 | 100 |
| Total | 19 | 18 | 13 | 9 | 43 | 100 |

3.2 Occupational Training

The providers were asked what, if any, occupational training they had had. Forty-four percent of the sample had attained a certificate in the field of health care that they provide. It is more likely for females in the sample to have a certificate as 73% of females have a certificate in comparison with only 8% of males. Also, those living in urban areas are more likely to have a certificate.

Table 3.21: Percentage Distribution of Providers with Certificates by Gender and Region

| | Yes | No | Total |
|---------------|------------|-----------|--------------|
| Male | 8% | 92% | 100% |
| Female | 73 | 27 | 100 |
| Total | 44 | 56 | 100 |
| Urban | 57 | 43 | 100 |
| Rural | 41 | 59 | 100 |
| Total | 44 | 56 | 100 |

Eighty-three percent of providers with a certificate had a certificate in secondary nursing, 14% had a nursing diploma and 3% had a certificate in preparatory nursing. On average, providers got their certificates 11 years ago. In particular, females had 11.4 years of experience, while males only had 5.7 years of experience. Providers in urban areas had much more experience than their rural counterparts (16.8 years versus 9.2 years, respectively).

Table 3.22: Percentage Distribution of Education by Gender by Region

| | Preparatory Nursing | Secondary Nursing | Nursing Diploma | Total |
|---------------|----------------------------|--------------------------|------------------------|--------------|
| Male | 0% | 67% | 33% | 100% |
| Female | 3 | 84 | 13 | 100 |
| Total | 3 | 83 | 14 | 100 |
| Urban | 0 | 100 | 0 | 100 |
| Rural | 4 | 78 | 19 | 100 |
| Total | 3 | 83 | 14 | 100 |

Providers were then asked if they had attended any training programs. Approximately 43% of the sample had attended an average of 4 training programs. On average, providers in urban areas attended 6 programs, while those in rural areas had attended 3 programs. Females in the sample had attended, on average 4 programs, twice as many as their male counterparts.

The survey inquired about the various aspects of the last 3 training programs attended by providers. Table 3.23 presents the amount of time elapsed since the previous 3 programs were taken and how long the programs lasted. On average it has been approximately 4 years since the last 2 programs were taken and almost 7 years since the third last training program was taken.

Table 3.23: Number of Years since Last Training Programs by Gender and by Region

| | Last Training | Second Last Training | Third Last Training |
|---------------|----------------------|-----------------------------|----------------------------|
| Male | 10.6 | 6.0 | 8.0 |
| Female | 1.8 | 3.7 | 6.6 |
| Total | 4.1 | 4.1 | 6.7 |
| Urban | 1.5 | 4.5 | 5.6 |
| Rural | 4.6 | 3.9 | 7.2 |
| Total | 4.1 | 4.1 | 6.7 |

On average, the most recent training program lasted 22 days, but ranged from 7 to 63 days. Earlier programs tended to be shorter in length and have a smaller range: on average the second to last program was for 10 days and ranged from 2 to 16 days, while the third last program was for 16 days and ranged from 8 to 22 days.

Table 3.24: Length of Training Programs (Days) by Gender and Region

| | <i>Last Training</i> | <i>Second Last Training</i> | <i>Third Last Training</i> |
|---------------|---------------------------------|--|---------------------------------------|
| Male | 46.4 | 11.3 | 11.0 |
| Female | 13.5 | 9.2 | 16.6 |
| Total | 22.2 | 9.5 | 16.0 |
| Urban | 27.0 | 9.7 | 16.6 |
| Rural | 21.2 | 9.5 | 15.8 |
| Total | 22.2 | 9.5 | 16.0 |

The majority of previous training programs took place in a government hospital. Other institutions and medical societies were also significant providers of training programs. Nursing schools only trained individuals in the most recent program. Details by program are presented in Table 3.25. Programs mainly had theoretical and practical components. Approximately a third of all programs only had a theoretical component. The most common topics covered in the last or most recent training program were family planning, first aid and post-natal care. In the second most recent program post-natal care, oral re-hydration therapy and immunization were most frequently covered, while in the third program the most common topics covered were family planning, oral re-hydration therapy, chest diseases and first aid. That oral re-hydration is no longer a frequent topic in training programs may be an indication of an overall health improvement amongst the population.

Table 3.25: Description of Training Programs by Job

| | <i>Most Recent Program</i> | <i>Second Most Recent Program</i> | <i>Third Most Recent Program</i> |
|--|---|--|---|
| Location of Training Program (Percentage) | | | |
| Government Hospital | 47 | 46 | 56 |
| Medical Society | 12 | 21 | 22 |
| Training Center | 18 | 8 | 6 |
| Nursing School | 3 | - | - |
| Other | 20 | 25 | 17 |
| Nature of Program (Percentage) | | | |
| Theoretical | 35 | 29 | 39 |
| Practical | 6 | 8 | 11 |
| Both | 59 | 63 | 50 |
| Main Topics Covered (Percentage) | | | |
| Family Planning | 20 | 8 | 22 |
| Oral Re-hydration Therapy | 9 | 17 | 22 |
| Immunization | 15 | 17 | 6 |
| Belharisia Care | 9 | 8 | 6 |
| Post-Natal Care | 18 | 29 | - |
| Chest Diseases | 9 | 8 | 22 |
| First Aid | 20 | 13 | 22 |

IV. Services Offered and Patient Visits

Table 4.1 shows the distribution of traditional health providers according to the services they provide. Nearly all providers will give injections to patients and 75% of providers, mostly in urban areas, will dress wounds. Fluid infusion is offered by 59% of providers, who are most likely to be located in rural areas. Bone setting and other services are less common, offered by 15% and 8% of providers, respectively.

Table 4.1: Distribution of Providers by Services Offered by Gender and by Region

| | <i>Injections</i> | <i>Dressing</i> | <i>Fluid Infusion</i> | <i>Other</i> | <i>Bone Setting</i> |
|--------------|--------------------------|------------------------|------------------------------|---------------------|----------------------------|
| Male | 92 | 72 | 53 | 17 | 14 |
| Female | 100 | 77 | 64 | 14 | 2 |
| Total | 96 | 75 | 59 | 15 | 8 |
| Urban | 100 | 93 | 50 | 21 | 14 |
| Rural | 95 | 71 | 61 | 14 | 6 |
| Total | 96 | 75 | 59 | 15 | 8 |

Fifteen percent of providers perform surgical procedures in their work where they were interviewed: 92% drain abscesses, 50% suture wounds and 8% do other procedures. Providers who perform surgical procedures are more likely to be located in urban areas; only 8% of those performing surgical procedures are located in rural areas.

Twenty-four percent of providers furnish patients with drugs or some type of medication. In most cases (69%), they are drugs obtained in a pharmacy. Five percent of providers giving medication to their patients give herbal medicines or plant extracts, while 21% give a combination of both. Five percent give medication other than that bought in a pharmacy or herbal medicines.

The average number of patient visits per week and per month is presented in Table 4.2. On average, providers attended to 26 patients per week. However, this ranged from 8 visits per week in urban Lower Egypt to 85 visits per week in rural Upper Egypt. Forty-one percent of the sample reported that the number of clients had increased since the previous year, 34% stated that client numbers had remained constant, while 23% reported a decrease in the number of clients. It was the first year of work for 3% of the sample and so they were unable to make a comparison.

The average number of clients in the previous month ranged from 26 visits to 58 visits to give an overall average of 47 visits. Average client number were broken into children under 15 years and adults and then by gender. Overall, there is only a marginal difference between child visits by gender: 22 visits by male children and 21 visits by female children. For adults it was reversed: 21 visits by males and 24 visits by females. There is a discrepancy in the data, as the sum of clients by gender does not equal the average total number of clients.

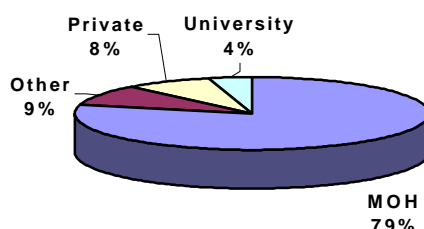
Table 4.2: Average Number of Patient Visits per Week and per Month by Region

| | | | <i>Average Number of Children Visits per Month</i> | | <i>Average Number of Adult Visits per Month</i> | |
|--------------|--|---|--|---------------|---|---------------|
| | <i>Average Number of Patients per Week</i> | <i>Average Number of Patients per Month</i> | <i>Male</i> | <i>Female</i> | <i>Male</i> | <i>Female</i> |
| Male | 18 | 47 | 40 | 37 | 42 | 39 |
| Female | 33 | 48 | 7 | 8 | 4 | 11 |
| Total | 26 | 47 | 22 | 21 | 21 | 24 |
| Urban | 12 | 35 | 7 | 8 | 9 | 10 |
| Rural | 29 | 50 | 25 | 24 | 23 | 27 |
| Total | 26 | 47 | 22 | 21 | 21 | 24 |

V. Multiple Employment

Sixty-six percent of the sample has a second job and 1% have a third job. The distribution of second jobs by affiliation is shown in Figure 5.1. All third jobs are in the private sector.

Figure 5.1: Distribution of Second Jobs by Affiliation



Health centers are the primary place of employment of all health services providers interviewed for this survey. Rural and urban health units employ 57% of providers with second jobs. Nine percent of those with second jobs work in a hospital, 8% are employed in private clinics and 4% work in health centers. Table 5.1 shows the distribution of multiple employment by institution type. Fifty-nine percent of multiple employment is in rural or urban health units. Medical institutions other than private clinics, hospitals and private clinics each provide 8% of multiple jobs. As most providers are located in rural regions, the majority of multiple employment is also located in rural regions.

Table 5.1: Distribution of Multiple Employment by Institution Type

| | <i>Hospital</i> | <i>Health Center</i> | <i>Rural/Urban Unit</i> | <i>Private Clinic</i> | <i>Other</i> | <i>Total</i> |
|--------------|-----------------|----------------------|-------------------------|-----------------------|--------------|--------------|
| Male | 1.9% | 0% | 22.6% | 3.8% | 7.5% | 35.8% |
| Female | 5.7 | 3.8 | 35.8 | 3.8 | 15.1 | 64.2 |
| Total | 7.5 | 3.8 | 58.5 | 7.5 | 22.6 | 100 |
| Urban | 3.8 | 3.8 | 1.9 | 3.8 | 7.5 | 20.8 |
| Rural | 3.8 | 0 | 56.6 | 3.8 | 15.1 | 79.2 |
| Total | 7.5 | 3.8 | 58.5 | 7.5 | 22.6 | 100 |

Table 5.2 examines the hours and days worked in the various jobs. It is apparent that the majority of providers spend more time per week in their second job than any other job. On average, providers work 38 hours per week in their second job, 29 hours in the job where they were interviewed and 36 hours in their third job. On average, providers have worked in their first job longer than in any other employment. In fact, those with a third job only began work there the year the survey was carried out

Table 5.2: Comparison of Multiple Employment with First Job

| | <i>First Job</i> | <i>Second Job</i> | <i>Third Job</i> |
|---|------------------|-------------------|------------------|
| Years in Job | 15 | 11 | 0 |
| Average Number of Days Worked per Week | 6 | 6 | 6 |
| Average Number of Hours Worked per Day | 4 | 6 | 6 |
| Average Number of Hours Worked per Week | 29 | 38 | 36 |

VI. Income

When asked for information on how they are paid for their services, 61% of health services providers reported that they do not charge any fees for the services they provide as shown in Table 6.1. This ranged from 33% of providers in rural Upper Egypt to 100% of providers in urban Lower Egypt. This is to be expected as these providers are outside the official labor market and so would be very hesitant to provide any details of their income. However, enough anecdotal evidence was gathered when the survey was being conducted to believe that all providers charge fees. Twenty-six percent of providers reported that they accept cash only, 4% accept goods as payment and 9% accept a combination of both.

Table 6.1: Distribution of Payment Methods for Services by Region

| | <i>Cash</i> | <i>Goods</i> | <i>Cash & Goods</i> | <i>No Fees</i> | <i>Total</i> |
|---------------|-------------|--------------|-------------------------|----------------|--------------|
| Male | 42 | 6 | 17 | 36 | 100 |
| Female | 14 | 2 | 2 | 82 | 100 |
| Total | 26 | 4 | 9 | 61 | 100 |
| Urban | 7 | 0 | 21 | 71 | 100 |
| Rural | 30 | 5 | 6 | 59 | 100 |
| Total | 26 | 4 | 9 | 61 | 100 |

The providers who charge fees were asked for the average fee charged for various services. However, the response rate was approximately 10%, which does not give a representative view of the price charged. Providers were then asked what is the lowest and highest fee they received for their services. The response rates to these questions were much higher, but not very credible. For example, one provider in rural Upper Egypt reported that the highest fee ever received for a dressing was L.E 1,100, while another provider in rural Lower Egypt received L.E. 1,300 for a fluid infusion.

Providers were asked how much they earned from the job where they were interviewed and any other work they do. They were also asked a separate question of what their total income was. On average L.E. 17 was earned per month from their current work and L.E. 121 from other work. Average total income per month was L.E. 103. No information was provided on the cost of services provided. As all providers charge fees, but only 26% of the sample reported receiving cash payments, it is reasonable to assume that any reported income from working as a traditional health provider has been greatly understated and not much significance can be attached to the figures reported in Table 6.2.

Table 6.2: Average Monthly Income

| | <i>Current Work</i> | <i>Other Work</i> | <i>Total</i> |
|-------------------------------|----------------------------|--------------------------|---------------------|
| Male | 34 | 113 | 106 |
| Female | 3 | 126 | 100 |
| Total | 17 | 121 | 103 |
| Urban | 19 | 147 | 135 |
| Rural | 17 | 115 | 96 |
| Total | 17 | 121 | 103 |
| Reported Income > 0 | 32.5% | 69% | 80% |

VII. Quality

The quality of the services provided was assessed by examining what follow-up procedure providers had and how they deal with medical problems that they cannot help with. On average, 50% of providers follow-up on the progress of their clients. As can be seen in Table 7.1, providers in rural areas are more likely to follow up with their clients and specify the follow-up appointment than providers in urban areas.

Table 7.1: Distribution of Providers that Follow-up on Patients by Region

| | Yes | <i>Not Applicable</i> | <i>Specify Follow-up Appointment</i> |
|---------------|------------|------------------------------|---|
| Male | 56% | 6% | 70% |
| Female | 45 | 7 | 40 |
| Total | 50 | 6 | 55 |
| Urban | 43 | 0 | 50 |
| Rural | 52 | 8 | 56 |
| Total | 50 | 6 | 55 |

Providers were asked what steps they take when they cannot help a patient with a medical problem. On average, 59% of the sample refer the patient to a doctor, 35% refer them to a hospital or health unit, but 5% do nothing.

Table 7.2: Procedure Followed When Provider Cannot Help Patient

| | <i>Refer to Hospital</i> | <i>Refer to Doctor</i> | <i>Do Nothing</i> | <i>Total</i> |
|--------------|--------------------------|------------------------|-------------------|--------------|
| Male | 47% | 47% | 6% | 100% |
| Female | 27 | 68 | 5 | 100 |
| Total | 36 | 59 | 5 | 100 |
| Urban | 43 | 57 | 0 | 100 |
| Rural | 35 | 59 | 6 | 100 |
| Total | 36 | 59 | 5 | 100 |

Twenty-one percent of the sample reported facing problems that negatively affect their work. These problems included a lack of health services facilities and lack of health education. On average 41% of the providers reporting problems stated that they lack health education, 35% felt there was a lack of health services facilities, while 24% reported other problems. The majority of urban area providers with problems felt that a lack of health education was the biggest issue facing them. In contrast, rural providers facing problems were almost equally divided between a lack of health facilities, a lack of health education and other problems. The distribution of problems faced by providers is given in Table 7.3.

Table 7.3: Problems Faced by Providers by Region

| | <i>Lack of Health Services Facilities</i> | <i>Lack of Health Education</i> | <i>Other</i> | <i>Total</i> |
|--------------|---|---------------------------------|--------------|--------------|
| Male | 40% | 40% | 20% | 100% |
| Female | 33 | 42 | 25 | 100 |
| Total | 35 | 41 | 24 | 100 |
| Urban | 25 | 75 | 0 | 100 |
| Rural | 38 | 31 | 31 | 100 |
| Total | 35 | 41 | 24 | 100 |

The most commonly suggested solution to the problems faced was the provision of health education. Twenty-four percent felt solutions other than health education and increasing the availability of medical services would help overcome the problems faced in the workplace. Eighteen percent of providers with problems suggested increasing the availability of medical services would help to alleviate their work problems.

Table 7.4: Solutions Suggested to Overcome Problems

| | <i>Health Education</i> | <i>Availability of Medical Services</i> | <i>Other</i> | <i>Total</i> |
|--------------|-------------------------|---|--------------|--------------|
| Male | 40% | 40% | 20% | 100% |
| Female | 67 | 8 | 25 | 100 |
| Total | 58.8 | 17.6 | 23.5 | 100 |
| Urban | 100 | 0 | 0 | 100 |
| Rural | 46 | 23 | 31 | 100 |
| Total | 58.8 | 17.6 | 23.5 | 100 |

Overall, the participation in government or voluntary programs was low, except for the immunization campaigns where 50% of the providers sampled participated. Thirty-nine percent of providers participated in health education programs and 29% participated in family planning programs. Low participation rates probably reflect the low level of education attained by the sample.

Table 7.5: Participation in Governmental or Voluntary Organizations in Public Health Projects

| | <i>Immunization Campaigns</i> | <i>Family Planning</i> | <i>Health Education</i> | <i>Other</i> |
|--------------|--------------------------------------|-------------------------------|--------------------------------|---------------------|
| Male | 33% | 19% | 31% | 6% |
| Female | 64 | 36 | 45 | 11 |
| Total | 50 | 29 | 39 | 9 |
| Urban | 29 | 7 | 29 | 0 |
| Rural | 55 | 33 | 41 | 11 |
| Total | 50 | 29 | 39 | 9 |

Forty-four percent of the providers sampled reported that patients do not come to them after consulting with physicians, but come directly to them. Approximately a fifth of providers state that clients frequently come to them after attending physicians, while 35% reported this occurring sometimes.

Table 7.6: Distribution of Providers where Patients come after consulting Physicians

| | <i>Frequently</i> | <i>Sometimes</i> | <i>Never</i> | <i>Total</i> |
|--------------|--------------------------|-------------------------|---------------------|---------------------|
| Male | 22% | 31% | 47% | 100% |
| Female | 20 | 39 | 41 | 100 |
| Total | 21 | 35 | 44 | 100 |
| Urban | 14 | 36 | 50 | 100 |
| Rural | 23 | 35 | 42 | 100 |
| Total | 21 | 35 | 44 | 100 |

Health services providers strongly feel that it is their personal experience and familiarity with clients that causes their patients to consult with them rather than physicians. Fifty-eight percent of the sample felt it was their previous successes that brought clients to them. Another common reason was that the cases were simple and so did not require a physician. Only a quarter of providers felt patients attended them rather than physicians because they were less expensive. Nine percent thought patients attended them because there were no physicians in the immediate vicinity, while 8% gave other reasons. Only 1% of the sample felt patients attended the health provider because they preferred dealing with a woman rather than a male physician.

Table 7.7: Opinion of Providers as to why Patients Consult with them

| | <i>Male</i> | <i>Female</i> | <i>Urban</i> | <i>Rural</i> | <i>Total</i> |
|---|--------------------|----------------------|---------------------|---------------------|---------------------|
| They know me | 83% | 77% | 86% | 79% | 80% |
| My experience & success | 64 | 52 | 64 | 56 | 58 |
| Cases are simple & do not need a doctor | 53 | 30 | 43 | 39 | 40 |
| Less expensive than doctors | 36 | 16 | 14 | 27 | 25 |
| Doctors are not available in this area | 8 | 9 | 0 | 11 | 9 |
| Other | 11 | 5 | 7 | 8 | 8 |
| Doctors are most likely men & my clients prefer a woman | 0 | 2 | 0 | 2 | 1 |